CHANGE

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

7110.65M CHG 3

3/19/01

SUBJ: AIR TRAFFIC CONTROL

1. PURPOSE. This change transmits revised pages to Order 7110.65M, Air Traffic Control, and a Briefing Guide.

2. DISTRIBUTION. This change is distributed to select offices in Washington headquarters, regional offices, the FAA Technical Center, the FAA Aeronautical Center, all air traffic field facilities, international aviation field offices, and interested aviation public.

3. EFFECTIVE DATE. July 12, 2001.

4. EXPLANATION OF CHANGES. See the Explanation of Changes attachment which has editorial corrections and changes submitted through normal procedures. The Briefing Guide lists only new or modified material, along with background and operational impact statements.

5. DISPOSITION OF TRANSMITTAL. Retain this transmittal until superseded by a new basic order.

6. PAGE CONTROL CHART. See the Page Control Chart attachment.

~ SIGNED ~
Bill G. Peacock
Director of Air Traffic

Date: 3/19/01

Distribution: ZAT-710

Initiated By: ATP-100

PAGE CONTROL CHART

7110.65M CHG 3

JULY 12, 2001

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Air Traffic Control
Explanation of Changes

Direct questions through appropriate facility/region staff to the Office of Primary Interest (OPI)

a. 1-2-6. ABBREVIATIONS

Adds the following abbreviations to Table 1-2-1:
(ACL) Aircraft List (ATP-110)
(APR) ATC Preferred Route (ATP-110)
(GPD) Graphics Plan Display (ATP-110)
(NIDS) National Institute for Discovery Sciences (ATP-200)
(OID) Operator Interface Device (ATP-120)
(RA) Radar Associate (ATP-110)
(UFO) Unidentified Flying Object (ATP-200)
(URET) User Request Evaluation Tool (ATP-110)
(URET CCLD) User Request Evaluation Tool Core Capability Limited Deployment (ATP-110)

b. 2-4-20. AIRCRAFT IDENTIFICATION

Deletes "U.S." from the example of identifying Special Air Mission (SAM) flights. (ATP-110)

c. 2-9-3. CONTENT

Clarifies that the ASOS/AWOS wind information is primarily only for weather observation purposes. (ATP-120)

d. 2-10-1. EN ROUTE SECTOR TEAM POSITION RESPONSIBILITIES

Identifies new en route sector team responsibilities associated with managing flight data using URET CCLD. (ATP-110)

e. 3-1-8. LOW LEVEL WIND SHEAR ADVISORIES

Includes the term "tornado" in appropriate paragraphs and phraseology examples. (ATP-120)

f. 3-3-4. BRAKING ACTION

Eliminates the need to issue a NOTAM when all three MU-Meter readings for a runway are above 40. (ATP-120)

g. 3-10-4. INTERSECTING RUNWAY SEPARATION

Adds a phrase to indicate LAHSO is not applicable to USN aircraft. (ATP-120)

h. 4-5-3. EXCEPTIONS

Defines an exception for allowing aircraft to fly at incorrect altitudes for direction of flight provided URET CCLD procedures and functionalities are used. (ATP-110)

i. 4-7-1. CLEARANCE INFORMATION

Clarifies the assignment of altitude. (ATP-120)

j. 5-9-8. SIMULTANEOUS INDEPENDENT DUAL ILS/MLS APPROACHES- HIGH UPDATE RADAR

Adds a note clarifying that the option of issuing a descent in conjunction with instructions to an aircraft to turn to avoid another aircraft deviating from an adjacent approach course during simultaneous closely spaced independent ILS/MLS approaches should only be used when no other option is available. The note reinforces the requirement that altitude assignments should provide for minimum obstruction clearance. (ATP-103)

k. 5-10-2. APPROACH INFORMATION

Pilots landing at a nontowered airport that has an Automated Weather Observing System (AWOS) or an Automated Surface Observing System (ASOS) should monitor the ASOS/AWOS broadcast to ascertain the current weather and advise the controller that they have the weather. If the pilot does not have the frequency for the ASOS/AWOS, the pilot may request the frequency from the controller. (ATP-120)

l. 7-9-4. SEPARATION

Rewords and removes the Note under paragraph 7-9-4b and places it more appropriately under paragraph 7-9-4c. (ATP-120)

m. SECTION 9. UNIDENTIFIED FLYING OBJECT (UFO) REPORTS

Adds a new section giving direction on how to report any unexplained phenomena. Previously, no single database has been available; and now, one research institution will compile a single database for effective analysis. (ATP-200)

n. 11-1-2. DUTIES AND RESPONSIBILITIES

Defines responsibilities for traffic management personnel to perform URET CCLD duties. (ATT-200)

o. CHAPTER 13. DECISION SUPPORT TOOLS

Adds a new chapter describing the procedures to be employed during use of URET CCLD. (ATP-110)

p. Editorial/format changes were made where necessary. Revision bars were not used due to the insignificant nature of the changes. (ATA-10)

Section 4. Special Use and ATC Assigned Airspace

Section 5. Fuel Dumping

Section 6. Jettisoning of External Stores

Section 7. Unmanned Free Balloons

Section 8. Parachute Jumping

Section 9. Unidentified Flying Object (UFO) Reports

Chapter 10. Emergencies

Section 1. General

Section 2. Emergency Assistance

Section 3. Overdue Aircraft

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Section 7. Ground Missile Emergencies

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Section 1. General

Chapter 12. Canadian Airspace Procedures

Section 1. General Control

Chapter 13. Decision Support Tools

Section 1. User Request Evaluation Tool (URET) Core Capability Limited Deployment (CCLD) – En Route

Appendices

1-2-4. REFERENCES

As used in this order, references direct attention to an additional or supporting source of information such as FAA, NWS, and other agencies' orders, directives, notices, CFR's, and Advisory Circulars (AC's).

1-2-5. ANNOTATIONS

Revised, reprinted, or new pages are marked as follows:

a. The change number and the effective date are printed on each revised or additional page.

b. A page that does not require a change is reprinted in its original form.

c. Bold vertical lines in the margin of changed pages indicate the location of substantive revisions to the order. Bold vertical lines adjacent to the title of a chapter, section, or paragraph means that extensive changes have been made to that chapter, section, or paragraph.

d. Paragraphs/sections annotated with *EN ROUTE* or *TERMINAL* are only to be applied by the designated type facility. When they are not so designated, the paragraphs/sections apply to both types of facilities (en route and terminal).

e. The annotation, *USAF* for the U.S. Air Force, *USN* for the U.S. Navy, and *USA* for the U.S. Army denotes that the procedure immediately following the annotation applies only to the designated service.

REFERENCE-
FAAO 7110.65, Military Procedures, Para 2-1-12.

f. WAKE TURBULENCE APPLICATION inserted within a paragraph means that the remaining information in the paragraph requires the application of wake turbulence procedures.

g. The annotation ***PHRASEOLOGY*** denotes the prescribed words and/or phrases to be used in communications.

NOTE-
Controllers may, after first using the prescribed phraseology for a specific procedure, rephrase the message to ensure the content is understood. Good judgement shall be exercised when using nonstandard phraseology.

h. The annotation ***EXAMPLE*** provides a sample of the way the prescribed phraseology associated with the preceding paragraph(s) will be used. If the preceding paragraph(s) does (do) not include specific prescribed phraseology, the ***EXAMPLE*** merely denotes suggested words and/or phrases that may be used in communications.

NOTE-
The use of the exact text contained in an example not preceded with specific prescribed phraseology is not mandatory. However, the words and/or phrases are expected, to the extent practical, to approximate those used in the example.

1-2-6. ABBREVIATIONS

As used in this manual, the following abbreviations have the meanings indicated. (See TBL 1-2-1.)

FAA Order 7110.65 Abbreviations

Abbreviation	*Meaning*
AAR	Airport acceptance rate
AAT-1	Director of Air Traffic
AC	Advisory Circular
ACC	Area Control Center
ACL	Aircraft list
ACLS	Automatic Carrier Landing System
ADC	Aerospace Defense Command
ADIZ	Air defense identification zone (to be pronounced "AY DIZ")
AIM	Aeronautical Information Manual
AIRMET	Airmen's meteorological information
ALERFA	Alert Phase code (Alerting Service)
ALNOT	Alert notice
ALS	Approach light system
ALTRV	Altitude reservation
AMASS	Airport Movement Area Safety System
AMB	Ambiguity-A disparity greater than 2 miles exists between the position declared for a target by ATTS and another facility's computer declared position during interfacility handoff
AMVER	Automated Mutual Assistance Vessel Rescue System
ANG	Air National Guard
APR	ATC preferred route
ARINC	Aeronautical Radio Incorporated
ARIP	Air refueling initial point
ARS	Air Traffic System Requirements Service
ARSR	Air route surveillance radar
ARTCC	Air route traffic control center
ARTS	Automated Radar Tracking System
ASDE	Airport surface detection equipment
ASR	Airport surveillance radar
ATA	Air Traffic Airspace Management Program

Abbreviation	*Meaning*
ATC	Air traffic control
ATCAA	ATC assigned airspace
ATCSCC	Air Traffic Control System Command Center
ATIS	Automatic terminal information service
ATP	Air Traffic Planning and Procedures
ATS	Air Traffic Service
ATTS	Automated Terminal Tracking Systems
BASE	Cloud base
CARCAH	Chief, Aerial Reconnaissance Coordination, All Hurricanes
CARF	Central Altitude Reservation Function
CAT	Clear air turbulence
CDT	Controlled Departure Time
CENRAP	Center Radar ARTS Presentation
CEP	Central East Pacific
CERAP	Combined Center/RAPCON
CFR	Code of Federal Regulations
CNS	Continuous
CPME	Calibration Performance Monitor Equipment
CTA	Control Area
CTRD	Certified Tower Radar Display
CVFP	Charted Visual Flight Procedure
CWA	Center Weather Advisory
DARC	Direct Access Radar Channel
DETRESFA	Distress Phase code (Alerting Service)
DF	Direction finder
DH	Decision height
DME	Distance measuring equipment compatible with TACAN
DOE	Department of Energy
DP	Instrument Departure Procedure
DR	Dead Reckoning
DSR	Display System Replacement
DVFR	Defense Visual Flight Rules
ECM	Electronic countermeasure
EDARC	Enhanced Direct Access Radar Channel
EDCT	Expect Departure Clearance Time
EFC	Expect further clearance
ELT	Emergency locator transmitter
EOVM	Emergency obstruction video map
ETA	Estimated time of arrival
FAA	Federal Aviation Administration
FAAO	FAA Order
FDIO	Flight Data Input/Output
FIR	Flight Information Region
FL	Flight level
FLIP	Flight Information Publication
FLY	Fly or flying
FMS	Flight Management System
FMSP	Flight Management System Procedure
FSS	Flight Service Station

Abbreviation	*Meaning*
GCA	Ground controlled approach
GNSS	Global Navigation Satellite System
GPD	Graphics Plan Display
GPS	Global Positioning System
HIRL	High intensity runway lights
ICAO	International Civil Aviation Organization
IDENT	Aircraft identification
IFR	Instrument flight rules
IFSS	International flight service station
ILS	Instrument Landing System
INCERFA	Uncertainty Phase code (Alerting Service)
INREQ	Information request
INS	Inertial Navigation System
IR	IFR military training route
JATO	Jet assisted takeoff
LAHSO	Land and Hold Short Operations
LLWAS	Low level wind shear alert system
L/MF	Low/medium frequency
LORAN	Long Range Navigation System
LTD	Along Track Distance
Mach	Mach Number
MALS	Medium intensity approach light system
MALSR	Medium approach light system with runway alignment indicator lights
MAP	Missed approach point
MARSA	Military authority assumes responsibility for separation of aircraft
MCA	Minimum crossing altitude
MCI	Mode C Intruder
MDA	Minimum descent altitude
MDM	Main Display Monitor
MEA	Minimum en route (IFR) altitude
M-EARTS	Micro-En Route Automated Radar Tracking System
MIA	Minimum IFR altitude
MIRL	Medium intensity runway lights
MLS	Microwave Landing System
MNPS	Minimum Navigation Performance Specification
MOA	Military operations area
MOCA	Minimum obstruction clearance altitude
MRA	Minimum reception altitude
MSAW	Minimum Safe Altitude Warning
MSL	Mean sea level
MTI	Moving target indicator
MTR	Military training route
MVA	Minimum vectoring altitude
NADIN	National Airspace Data Interchange Network
NAS	National Airspace System
NAT	ICAO North Atlantic Region
NBCAP	National Beacon Code Allocation Plan
NDB	Nondirectional radio beacon

Abbreviation	*Meaning*
NHOP	National Hurricane Operations Plan
NIDS	National Institute for Discovery Sciences
NM	Nautical Mile
NOAA	National Oceanic and Atmospheric Administration
NOPAC	North Pacific
NORAD	North American Aerospace Defense Command
NOS	National Ocean Service
NOTAM	Notice to Airmen
NRP	National Route Program
NTZ	No transgression zone
NWS	National Weather Service
NWSOP	National Winter Storm Operations Plan
ODALS	Omnidirectional approach lighting system
OID	Operator Interface Device
ONER	Oceanic Navigational Error Report
OS	Operations Supervisor
OTR	Oceanic Transition Route
PAR	Precision approach radar
PAR	Preferred arrival route
PBCT	Proposed Boundary Crossing Time
P/CG	Pilot/Controller Glossary
PDAR	Preferential departure arrival route
PDR	Preferential departure route
PIDP	Programmable Indicator Data Processor
PPI	Plan position indicator
PVD	Plan View Display
RA	Radar Associate
RAIL	Runway alignment indicator lights
RAPCON	Radar approach control facility (USAF)
RATCF	Radar air traffic control facility (USN)
RBS	Radar bomb scoring
RCC	Rescue Coordination Center
RCLS	Runway centerline system
RCR	Runway condition reading
RE	Recent (used to qualify weather phenomena such as rain, e.g. recent rain = RERA)
REIL	Runway end identifier lights
RNAV	Area Navigation
RTQC	Real-Time Quality Control
RVR	Runway visual range
RVSM	Reduced Vertical Separation Minimum
RVV	Runway visibility value
SAR	Search and rescue
SELCAL	Selective calling system
SFA	Single frequency approach
SFO	Simulated flameout
SIGMET	Significant meteorological information
STAR	Standard terminal arrival
STARS	Standard Terminal Automation Replacement System
STMC	Supervisory Traffic Management Coordinator
STMCIC	Supervisory Traffic Management Coordinator-in-charge
STOL	Short takeoff and landing
SURPIC	Surface Picture
SVFR	Special Visual Flight Rules
TAA	Terminal Arrival Area
TACAN	TACAN UHF navigational aid (omnidirectional course and distance information)
TCAS	Traffic Alert and Collision Avoidance System
TCDD	Tower Cab Digital Display
TDW	Tower Display Workstation
TDZL	Touchdown zone light system
TMC	Traffic management coordinator
TMU	Traffic management unit
TRACON	Terminal radar approach control
TRSA	Terminal radar service area
UFO	Unidentified flying object
UHF	Ultra high frequency
URET	User Request Evaluation Tool
URET CCLD	User Request Evaluation Tool Core Capability Limited Deployment
USA	United States Army
USAF	United States Air Force
USN	United States Navy
UTC	Coordinated Universal Time
UTM	Unsuccessful transmission message
UUA	Urgent Pilot Weather Report
VFR	Visual flight rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOR	VHF navigational aid (omnidirectional course information)
VOR/DME	Collocated VOR and DME navigational aids (VHF course and UHF distance information)
VORTAC	Collocated VOR and TACAN navigation aids (VHF and UHF course and UHF distance information)
VR	VFR military training route
VSCS	Voice Switching and Control System
WATRS	West Atlantic Route System
WSO	Weather Service Office
WST	Convective SIGMET

TBL 1-2-1

c. Transfer communications to the appropriate facility, if required, prior to operation within a surface area for which the tower has responsibility.

REFERENCE-
FAAO 7110.65, Radio Communications Transfer, Para 2-1-17.
FAAO 7110.65, Surface Area Restrictions, Para 3-1-11.
FAAO 7110.65, Application, Para 7-6-1.
14 CFR Section 91.129, Operations in Class D Airspace.

2-1-17. RADIO COMMUNICATIONS TRANSFER

a. Transfer radio communications before an aircraft enters the receiving controller's area of jurisdiction unless otherwise coordinated or specified by a letter of agreement or a facility directive.

b. Transfer radio communications by specifying the following:

NOTE-
Radio communications transfer procedures may be specified by a letter of agreement or contained in the route description of an MTR as published in the DOD Planning AP/1B (AP/3).

1. The facility name or location name and terminal function to be contacted. *TERMINAL:* Omit the location name when transferring communications to another controller within your facility; except when instructing the aircraft to change frequency for final approach guidance include the name of the facility.

2. Frequency to use except the following may be omitted:

(a) FSS frequency.

(b) Departure frequency if previously given or published on a DP chart for the procedure issued.

(c) *TERMINAL:*

(1) Ground or local control frequency if in your opinion the pilot knows which frequency is in use.

(2) The numbers preceding the decimal point if the ground control frequency is in the 121 MHz bandwidth.

EXAMPLE-
"Contact Tower."
"Contact Ground."
"Contact Ground Point Seven."
"Contact Ground, One Two Zero Point Eight."
"Contact Huntington Radio."
"Contact Departure."
"Contact Los Angeles Center, One Two Three Point Four."

3. Time, fix, altitude, or specifically when to contact a facility. You may omit this when compliance is expected upon receipt.

NOTE-
AIM, para 5-3-1, ARTCC Communications, informs pilots that they are expected to maintain a listening watch on the transferring controller's frequency until the time, fix, or altitude specified.

PHRASEOLOGY-
CONTACT (facility name or location name and terminal function), (frequency).

If required,

AT (time, fix, or altitude).

c. In situations where an operational advantage will be gained, and following coordination with the receiving controller, you may instruct aircraft on the ground to monitor the receiving controller's frequency.

EXAMPLE-
"Monitor Tower."
"Monitor Ground."
"Monitor Ground Point Seven."
"Monitor Ground, One Two Zero Point Eight."

d. In situations where a sector has multiple frequencies or when sectors are combined using multiple frequencies and the aircraft will remain under your jurisdiction, transfer radio communication by specifying the following:

PHRASEOLOGY-
(Identification) CHANGE TO MY FREQUENCY (state frequency).

EXAMPLE-
"United two twenty-two change to my frequency one two three point four."

REFERENCE-
AIM, Contact Procedures, Para 4-2-3.

e. Avoid issuing a frequency change to helicopters known to be single-piloted during air-taxiing, hovering, or low-level flight. Whenever possible, relay necessary control instructions until the pilot is able to change frequency.

NOTE-
Most light helicopters are flown by one pilot and require the constant use of both hands and feet to maintain control. Although Flight Control Friction Devices assist the pilot, changing frequency near the ground could result in inadvertent ground contact and consequent loss of control. Pilots are expected to advise ATC of their single-pilot status if unable to comply with a frequency change.

REFERENCE-
AIM, Communications, Para 4-3-14.

f. In situations where the controller does not want the pilot to change frequency but the pilot is expecting or may want a frequency change, use the following phraseology.

PHRASEOLOGY-
REMAIN THIS FREQUENCY.

REFERENCE-
FAAO 7110.65, Clearance Information, Para 4-7-1.
FAAO 7110.65, Communication Transfer, Para 5-12-8.

2-1-18. OPERATIONAL REQUESTS

Respond to a request from another controller, a pilot or vehicle operator by one of the following verbal means:

a. Restate the request in complete or abbreviated terms followed by the word "APPROVED." The phraseology "APPROVED AS REQUESTED" may be substituted in lieu of a lengthy readback.

PHRASEOLOGY-
(Requested operation) APPROVED.

or

APPROVED AS REQUESTED.

b. State restrictions followed by the word "APPROVED."

PHRASEOLOGY-
(Restriction and/or additional instructions, requested operation) APPROVED.

c. State the word "UNABLE" and, time permitting, a reason.

PHRASEOLOGY-
UNABLE (requested operation).

and when necessary,

(reason and/or additional instructions.)

d. State the words "STAND BY."

NOTE-
"STAND BY" is not an approval or denial. The controller acknowledges the request and will respond at a later time.

REFERENCE-
FAAO 7110.65, Traffic Advisories, Para 2-1-21.
FAAO 7110.65, Route or Altitude Amendments, Para 4-2-5.
FAAO 7110.65, Methods, Para 7-9-3.

2-1-19. WAKE TURBULENCE

a. Apply wake turbulence procedures to aircraft operating behind heavy jets/B757's and, where indicated, to small aircraft behind large aircraft.

NOTE-
Para 5-5-4, Minima, specifies increased radar separation for small type aircraft landing behind large, heavy, or B757 aircraft because of the possible effects of wake turbulence.

b. The separation minima shall continue to touchdown for all IFR aircraft not making a visual approach or maintaining visual separation.

REFERENCE-
FAAO 7110.65, Approach Separation Responsibility, Para 5-9-5.

2-1-20. WAKE TURBULENCE CAUTIONARY ADVISORIES

a. Issue wake turbulence cautionary advisories and the position, altitude if known, and direction of flight of the heavy jet or B757 to:

REFERENCE-
AC 90-23, Aircraft Wake Turbulence, Pilot Responsibility, Para 12.

1. *TERMINAL.* VFR aircraft not being radar vectored but are behind heavy jets or B757's.

2. IFR aircraft that accept a visual approach or visual separation.

REFERENCE-
FAAO 7110.65, Visual Approach, Para 7-4-1.

3. *TERMINAL.* VFR arriving aircraft that have previously been radar vectored and the vectoring has been discontinued.

b. Issue cautionary information to any aircraft if in your opinion, wake turbulence may have an adverse effect on it. When traffic is known to be a heavy aircraft, include the word *heavy* in the description.

NOTE-
Wake turbulence may be encountered by aircraft in flight as well as when operating on the airport movement area. Because wake turbulence is unpredictable, the controller is not responsible for anticipating its existence or effect. Although not mandatory during ground operations, controllers may use the words jet blast, propwash, or rotorwash, in lieu of wake turbulence, when issuing a caution advisory.

REFERENCE-
AC 90-23, Aircraft Wake Turbulence.
P/CG TERM- Aircraft Classes.
P/CG TERM- Wake Turbulence.

PHRASEOLOGY-
CAUTION WAKE TURBULENCE (traffic information).

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

(f) Special Air Mission. "SAM."

EXAMPLE-
"Sam Niner One Five Six Two."

(g) USAF Contract Aircraft "LOGAIR."

EXAMPLE-
"Logair Seven Five Eight Two Six."

(h) Military tactical and training:

(1) U.S. Air Force, Air National Guard, Military District of Washington priority aircraft, and USAF civil disturbance aircraft. Pronounceable words of 3 to 6 letters followed by a 1 to 5 digit number.

EXAMPLE-
"Paul Two Zero."
"Pat One Five Seven."
"Gaydog Four."

NOTE-
When the "Z" suffix described in para 2-3-6, USAF/USN Undergraduate Pilots, is added to identify aircraft piloted by USAF undergraduate pilots, the call sign will be limited to a combination of six characters.

(2) Navy or Marine fleet and training command aircraft. The service name and 2 letters, or a digit and a letter (use letter phonetic equivalents), followed by 2 or 3 digits.

EXAMPLE-
"Navy Golf Alfa Two One."
"Marine Four Charlie Two Three Six."

(i) NORAD interceptors. An assigned double letter 2-digit flight number.

EXAMPLE-
"Alfa Kilo One Five."

7. Presidential aircraft and Presidential family aircraft:

(a) When the President is aboard a military aircraft, state the name of the military service, followed by the word "One."

EXAMPLE-
"Air Force One."
"Army One."
"Marine One."

(b) When the President is aboard a civil aircraft, state the words "Executive One."

(c) When a member of the President's family is aboard any aircraft, if the U.S. Secret Service or the White House Staff determines it is necessary, state the words "Executive One Foxtrot."

REFERENCE-
FAAO 7110.65, Operational Priority, Para 2-1-4.

8. Vice Presidential aircraft:

(a) When the Vice President is aboard a military aircraft, state the name of the military service, followed by the word "Two."

EXAMPLE-
"Air Force Two."
"Army Two."
"Marine Two."

(b) When the Vice President is aboard a civil aircraft, state the words "Executive Two."

(c) When a member of the Vice President's family is aboard any aircraft, if the U.S. Secret Service or the White House Staff determines it is necessary, state the words "Executive Two Foxtrot."

REFERENCE-
FAAO 7110.65, Operational Priority, Para 2-1-4.

9. DOT and FAA flights. The following alphanumeric identifiers and radio/interphone call signs are established for use in air/ground communications when the Secretary of Transportation, Deputy Secretary of Transportation, FAA Administrator or FAA Deputy Administrator have a requirement to identify themselves. (See TBL 2-4-2.)

DOT and FAA Alphanumeric Identifiers and Call Signs

Official	*Identifier*	*Call Sign*
Secretary of Transportation	DOT-1	Transport-1
Deputy Secretary of Transportation	DOT-2	Transport-2
Administrator, Federal Aviation Administration	FAA-1	Safeair-1
Deputy Administrator, Federal Aviation Administration	FAA-2	Safeair-2

TBL 2-4-2

10. Other Special Flights.

(a) Department of Energy flights. State the letters "R-A-C" (use phonetic alphabet equivalents) followed by the last 4 separate digits of the aircraft registration number.

EXAMPLE-
"Romeo Alfa Charlie One Six Five Three."

(b) Flight Inspection of navigational aids. State the call sign "FLIGHT CHECK" followed by the digits of the registration number.

EXAMPLE-
"Flight Check Three Niner Six Five Four."

(c) USAF aircraft engaged in aerial sampling missions. State the call sign "SAMP" followed by the last three digits of the serial number.

EXAMPLE-
"SAMP Three One Six."

REFERENCE-
FAAO 7110.65, SAMP, Para 9-3-14.

11. Use a pilot's name in identification of an aircraft only in special or emergency situations.

b. Foreign registry. State one of the following:

1. Civil. State the aircraft type or the manufacturer's name followed by the letters/numbers of the aircraft registration, or state the letters or digits of the aircraft registration or call sign.

EXAMPLE-
"Stationair F-L-R-B."
"C-F-L-R-B."

NOTE-
Letters may be spoken individually or phonetically.

2. Air carrier. The abbreviated name of the operating company followed by the letters or digits of the registration or call sign.

EXAMPLE-
"Air France F-L-R-L-G."

3. The flight number in group form, or you may use separate digits if that is the format used by the pilot.

EXAMPLE-
"Scandinavian Sixty-eight."
"Scandinavian Six Eight."

4. Foreign Military. Except Canada, the name of the country and the military service followed by the separate digits or letters of the registration or call sign. Canadian Armed Force aircraft shall be identified by the word "Canforce" followed by the separate digits of the serial number, except that the Transport Command of the Canadian Armed Force shall be identified by the words "Canadian Military" and the Canadian Coast Guard shall be identified as "Canadian Coast Guard" followed by the separate digits of the serial number.

EXAMPLE-
"Canforce Five Six Two Seven."
"Brazilian Air Force Five Three Two Seven Six."

2-4-21. DESCRIPTION OF AIRCRAFT TYPES

Except for heavy aircraft, describe aircraft as follows when issuing traffic information.

a. Military:

1. Military designator, with numbers spoken in group form, or

2. Service and type, or

3. Type only if no confusion or misidentification is likely.

b. Air Carrier:

1. Manufacturer's model or designator.

2. Add the manufacturer's name, company name or other identifying features when confusion or misidentification is likely.

EXAMPLE-
"L-Ten-Eleven."
"American MD-Eighty. Seven Thirty-Seven."
"Boeing Seven Fifty-Seven."

NOTE-
Pilots of "interchange" aircraft are expected to inform the tower on the first radio contact the name of the operating company and trip number followed by the company name, as displayed on the aircraft, and the aircraft type.

c. General Aviation and Air Taxi:

1. Manufacturer's model, or designator.

2. Manufacturer's name, or add color when considered advantageous.

EXAMPLE-
"Tri-Pacer."
"P A Twenty-Two."
"Cessna Four-Oh-One."
"Blue and white King Air."
"Airliner."
"Sikorsky S-Seventy-Six."

d. When issuing traffic information to aircraft following a heavy jet, specify the word "heavy" before the manufacturer's name and model.

EXAMPLE-
"Heavy L-Ten-Eleven."
"Heavy C-Five."
"Heavy Boeing Seven Forty-Seven."

REFERENCE-
FAAO 7110.65, Traffic Advisories, Para 2-1-21.

2-4-22. AIRSPACE CLASSES

A, B, C, D, E, and G airspace are pronounced in the ICAO phonetics for clarification. The term "Class" may be dropped when referring to airspace in pilot/controller communications.

EXAMPLE-
"Cessna 123 Mike Romeo cleared to enter Bravo airspace."
"Sikorsky 123 Tango Sierra cleared to enter New York Bravo airspace."

Section 9. Automatic Terminal Information Service Procedures

2-9-1. APPLICATION

Use the ATIS, where available, to provide advance noncontrol airport/terminal area and meteorological information to aircraft.

a. Identify each ATIS message by a phonetic letter code word at both the beginning and the end of the message. Automated systems will have the phonetic letter code automatically appended. Exceptions may be made where omissions are required because of special programs or equipment.

1. Each alphabet letter phonetic word shall be used sequentially, except as authorized in subpara a2, beginning with "Alpha," ending with "Zulu," and repeated without regard to the beginning of a new day. Identify the first resumed broadcast message with "Alpha" or the first assigned alphabet letter word in the event of a broadcast interruption of more than 12 hours.

2. Specific sequential portions of the alphabet may be assigned between facilities or an arrival and departure ATIS when designated by a letter of agreement or facility directive.

REFERENCE-
FAAO 7210.3, Automatic Terminal Information Service (ATIS), Para 10-4-1.

b. The ATIS recording shall be reviewed for completeness, accuracy, speech rate, and proper enunciation before being transmitted.

c. Arrival and departure messages, when broadcast separately, need only contain information appropriate for that operation.

2-9-2. OPERATING PROCEDURES

Maintain an ATIS message that reflects the most current arrival and departure information.

a. Make a new recording when any of the following occur:

1. Upon receipt of any new official weather regardless of whether there is or is not a change in values.

2. When runway braking action reports are received that indicate runway braking is worse than that which is included in the current ATIS broadcast.

3. When there is a change in any other pertinent data, such as runway change, instrument approach in use, new or canceled NOTAM's/PIREP's/HIWAS update, etc.

b. When a pilot acknowledges that he/she has received the ATIS broadcast, controllers may omit those items contained in the broadcasts if they are current. Rapidly changing conditions will be issued by ATC, and the ATIS will contain the following:

EXAMPLE-
"Latest ceiling/visibility/altimeter/wind/(other conditions) will be issued by approach control/tower."

c. Broadcast on all appropriate frequencies to advise aircraft of a change in the ATIS code/message.

d. Controllers shall ensure that pilots receive the most current pertinent information. Ask the pilot to confirm receipt of the current ATIS information if the pilot does not initially state the appropriate ATIS code. Controllers shall ensure that changes to pertinent operational information is provided after the initial confirmation of ATIS information is established. Issue the current weather, runway in use, approach information, and pertinent NOTAM's to pilots who are unable to receive the ATIS.

EXAMPLE-
"Verify you have information ALPHA."

"Information BRAVO now current, visibility three miles."

"Information CHARLIE now current, Ceiling 1500 Broken."

2-9-3. CONTENT

Include the following in ATIS broadcast as appropriate:

a. Airport/facility name, phonetic letter code, time of weather sequence (UTC). Weather information consisting of wind direction and velocity, visibility, obstructions to vision, present weather, sky condition, temperature, dew point, altimeter, a density altitude advisory when appropriate and other pertinent remarks included in the official weather observation. Wind direction, velocity, and altimeter shall be reported from certified direct reading instruments. Temperature and dew point should be reported from certified direct reading sensors when available. Always include weather observation remarks of lightning, cumulonimbus, and towering cumulus clouds.

NOTE-
ASOS/AWOS is to be considered the primary source of wind direction, velocity, and altimeter data for weather observation purposes at those locations that are so equipped. The ASOS Operator Interface Device (OID) displays the magnetic wind as "MAG WND" in the auxiliary data location in the lower left-hand portion of the screen. Other OID displayed winds are true and are not to be used for operational purposes.

b. The ceiling/sky condition, visibility, and obstructions to vision may be omitted if the ceiling is above 5,000 feet and the visibility is more than 5 miles.

EXAMPLE-
A remark may be made, "The weather is better than five thousand and five."

c. Instrument/visual approach/s in use. Specify landing runway/s unless the runway is that to which the instrument approach is made.

d. Departure runway/s (to be given only if different from landing runway/s or in the instance of a "departure only" ATIS).

e. Taxiway closures which affect the entrance or exit of active runways, other closures which impact airport operations, other NOTAM's and PIREP's pertinent to operations in the terminal area. Inform pilots of where hazardous weather is occurring and how the information may be obtained. Include available information of known bird activity.

REFERENCE-
FAAO 7110.65, Bird Activity Information, Para 2-1-22.

f. Runway braking action or friction reports when provided. Include the time of the report and a word describing the cause of the runway friction problem.

PHRASEOLOGY-
RUNWAY (number) MU (first value, second value, third value) AT (time), (cause).

EXAMPLE-
"Runway Two Seven, MU forty-two, forty-one, twenty-eight at one zero one eight Zulu, ice."

REFERENCE-
FAAO 7110.65, Braking Action Advisories, Para 3-3-5.

g. Other optional information as local conditions dictate in coordination with ATC. This may include such items as VFR arrival frequencies, temporary airport conditions, LAHSO operations being conducted, or other perishable items that may appear only for a matter of hours or a few days on the ATIS message.

h. Low level wind shear (LLWS) when reported by pilots or is detected on a low level wind shear alert system (LLWAS).

REFERENCE-
FAAO 7110.65, Low Level Wind Shear Advisories, Para 3-1-8.

i. A statement which advises the pilot to read back instructions to hold short of a runway. The air traffic manager may elect to remove this requirement 60 days after implementation provided that removing the statement from the ATIS does not result in increased requests from aircraft for read back of hold short instructions.

j. Instructions for the pilot to acknowledge receipt of the ATIS message by informing the controller on initial contact.

EXAMPLE-
"Boston Tower Information Delta. One four zero zero Zulu. Wind two five zero at one zero. Visibility one zero. Ceiling four thousand five hundred broken. Temperature three four. Dew point two eight. Altimeter three zero one zero. ILS-DME Runway Two Seven Approach in use. Departing Runway Two Two Right. Hazardous Weather Information for (geographical area) available on HIWAS, Flight Watch, or Flight Service Frequencies. Advise on initial contact you have Delta."

Section 10. Team Position Responsibilities

2-10-1. EN ROUTE SECTOR TEAM POSITION RESPONSIBILITIES

a. En Route Sector Team Concept and Intent:

1. There are no absolute divisions of responsibilities regarding position operations. The tasks to be completed remain the same whether one, two, or three people are working positions within a sector. The team, as a whole, has responsibility for the safe and efficient operation of that sector.

2. The intent of the team concept is not to hold the team accountable for the action of individual members, in the event of an operational accident/incident.

b. *Terms.* The following terms will be used in en route facilities for the purpose of standardization:

1. *Sector.* The area of control responsibility (delegated airspace) of the en route sector team, and the team as a whole.

2. *Radar Position (R).* That position which is in direct communication with the aircraft and which uses radar information as the primary means of separation.

3. *Radar Associate (RA).* That position sometimes referred to as "D-Side" or "Manual Controller."

4. *Radar Coordinator Position (RC).* That position sometimes referred to as "Coordinator," "Tracker," or "Handoff Controller" (En Route).

5. *Radar Flight Data (FD).* That position commonly referred to as "Assistant Controller" or "A-Side" position.

6. *Nonradar Position (NR).* That position which is usually in direct communication with the aircraft and which uses nonradar procedures as the primary means of separation.

c. Primary responsibilities of the En Route Sector Team Positions:

1. ***Radar Position:***

(a) Ensure separation.

(b) Initiate control instructions.

(c) Monitor and operate radios.

(d) Accept and initiate automated handoffs.

(e) Assist the radar associate position with nonautomated handoff actions when needed.

(f) Assist the radar associate position in coordination when needed.

(g) Scan radar display. Correlate with flight progress strip information or User Request Evaluation Tool Core Capability Limited Deployment (URET CCLD) data, as applicable.

(h) Ensure computer entries are completed on instructions or clearances you issue or receive.

(i) Ensure strip marking and/or URET CCLD entries are completed on instructions or clearances you issue or receive.

(j) Adjust equipment at radar position to be usable by all members of the team.

(k) The radar controller shall not be responsible for G/G communications when precluded by VSCS split functionality.

2. ***Radar Associate Position:***

(a) Ensure separation.

(b) At URET CCLD facilities, use URET CCLD information to plan, organize, and expedite the flow of traffic.

(c) Initiate control instructions.

(d) Operate interphones.

(e) Accept and initiate nonautomated handoffs, and ensure radar position is made aware of the actions.

(f) Assist the radar position by accepting or initiating automated handoffs which are necessary for the continued smooth operation of the sector, and ensure that the radar position is made immediately aware of any action taken.

(g) Coordinate, including pointouts.

(h) Monitor radios when not performing higher priority duties.

(i) Scan flight progress strips and/or URET CCLD data. Correlate with radar data.

(j) Manage flight progress strips and/or URET CCLD flight data.

(k) Ensure computer entries are completed on instructions issued or received. Enter instructions

issued or received by the radar position when aware of those instructions.

(l) As appropriate, ensure strip marking and/or URET CCLD entries are completed on instructions issued or received, and record instructions issued or received by the radar position when aware of them.

(m) Adjust equipment at radar associate position to be usable by all members of the team.

(n) Where authorized, perform URET CCLD data entries to keep the activation status of designated URET CCLD Airspace Configuration Elements current.

3. ***Radar Coordinator Position:***

(a) Perform interfacility/intrafacility/sector/position coordination of traffic actions.

(b) Advise the radar position and the radar associate position of sector actions required to accomplish overall objectives.

(c) Perform any of the functions of the en route sector team which will assist in meeting situation objectives.

(d) The RC controller shall not be responsible for monitoring or operating radios when precluded by VSCS split functionality.

NOTE-
The Radar Position has the responsibility for managing the overall sector operations, including aircraft separation and traffic flows. The Radar Coordinator Position assumes responsibility for managing traffic flows and the Radar Position retains responsibility for aircraft separation when the Radar Coordinator Position is staffed.

4. ***Radar Flight Data:***

(a) Operate interphone.

(b) Assist Radar Associate Position in managing flight progress strips.

(c) Receive/process and distribute flight progress strips.

(d) Ensure flight data processing equipment is operational, except for URET CCLD capabilities.

(e) Request/receive and disseminate weather, NOTAM's, NAS status, traffic management, and Special Use Airspace status messages.

(f) Manually prepare flight progress strips when automation systems are not available.

(g) Enter flight data into computer.

(h) Forward flight data via computer.

(i) Assist facility/sector in meeting situation objectives.

5. ***En Route Nonradar Position:***

(a) Ensure separation.

(b) Initiate control instructions.

(c) Monitor and operate radios.

(d) Accept and initiate transfer of control, communications, and flight data.

(e) Ensure computer entries are completed on instructions or clearances issued or received.

(f) Ensure strip marking is completed on instructions or clearances issued or received.

(g) Facilities utilizing nonradar positions may modify the standards contained in the radar associate, radar coordinator, and radar flight data sections to accommodate facility/sector needs, i.e., nonradar coordinator, nonradar data positions.

2-10-2. TERMINAL RADAR/NONRADAR TEAM POSITION RESPONSIBILITIES

a. *Terminal Radar Team Concept and Intent:*

1. There are no absolute divisions of responsibilities regarding position operations. The tasks to be completed remain the same whether one, two, or three people are working positions within a facility/sector. The team, as a whole, has responsibility for the safe and efficient operation of that facility/sector.

2. The intent of the team concept is not to hold the team accountable for the action of individual members in the event of an operational error/deviation.

b. *Terms.* The following terms will be used in terminal facilities for the purposes of standardization.

1. *Facility/Sector.* The area of control responsibility (delegated airspace) of the radar team, and the team as a whole.

2. *Radar Position (R).* That position which is in direct communication with the aircraft and which uses radar information as the primary means of separation.

3. *Radar Associate Position (RA).* That position commonly referred to as "Handoff Controller" or "Radar Data Controller."

4. *Radar Coordinator Position (RC).* That position commonly referred to as "Coordinator," "Tracker," "Sequencer," or "Overhead."

5. *Radar Flight Data (FD).* That position commonly referred to as "Flight Data."

6. *Nonradar Position (NR).* That position which is usually in direct communication with the aircraft and which uses nonradar procedures as the primary means of separation.

c. Primary Responsibilities of the Terminal Radar Team Positions:

1. ***Radar Position:***

(a) Ensure separation.

(b) Initiate control instructions.

(c) Monitor and operate radios.

(d) Accept and initiate automated handoffs.

(e) Assist the Radar Associate Position with nonautomated handoff actions when needed.

(f) Assist the Radar Associate Position in coordination when needed.

(g) Scan radar display. Correlate with flight progress strip information.

(h) Ensure computer entries are completed on instructions or clearances you issue or receive.

(i) Ensure strip marking is completed on instructions or clearances you issue or receive.

(j) Adjust equipment at Radar Position to be usable by all members of the team.

2. ***Radar Associate Position:***

(a) Ensure separation.

(b) Initiate control instructions.

(c) Operate interphones.

(d) Maintain awareness of facility/sector activities.

(e) Accept and initiate nonautomated handoffs.

(f) Assist the Radar Position by accepting or initiating automated handoffs which are necessary for the continued smooth operation of the facility/sector and ensure that the Radar Position is made immediately aware of any actions taken.

(g) Coordinate, including point outs.

(h) Scan flight progress strips. Correlate with radar data.

(i) Manage flight progress strips.

(j) Ensure computer entries are completed on instructions issued or received, and enter instructions issued or received by the Radar Position aware of those instructions.

(k) Ensure strip marking is completed on instructions issued or received, and write instructions issued or received by the Radar Position when aware of them.

(l) Adjust equipment at Radar Associate Position to be usable by all members of the Radar Team.

3. ***Radar Coordinator Position:***

(a) Perform interfacility/sector/position coordination of traffic actions.

(b) Advise the Radar Position and the Radar Associate Position of facility/sector actions required to accomplish overall objectives.

(c) Perform any of the functions of the Radar Team which will assist in meeting situation objectives.

NOTE-
The Radar Position has the responsibility of managing the overall sector operations, including aircraft separation and traffic flows. The Radar Coordinator Position assumes responsibility for managing traffic flows and the Radar Position retains responsibility for aircraft separation when the Radar Coordinator Position is staffed.

4. ***Radar Flight Data:***

(a) Operate interphones.

(b) Process and forward flight plan information.

(c) Compile statistical data.

(d) Assist facility/sector in meeting situation objectives.

5. ***Terminal Nonradar Position:***

(a) Ensure separation.

(b) Initiate control instructions.

(c) Monitor and operate radios.

(d) Accept and initiate transfer of control, communications and flight data.

(e) Ensure computer entries are completed on instructions or clearances issued or received.

(f) Ensure strip marking is completed on instructions or clearances issued or received.

(g) Facilities utilizing nonradar positions may modify the standards contained in the radar associate, radar coordinator, and radar flight data sections to accommodate facility/sector needs, i.e. nonradar coordinator, nonradar data positions.

2-10-3. TOWER TEAM POSITION RESPONSIBILITIES

a. *Tower Team Concept and Intent:*

1. There are no absolute divisions of responsibilities regarding position operations. The tasks to be completed remain the same whether one, two, or three people are working positions within a tower cab. The team as a whole has responsibility for the safe and efficient operation of that tower cab.

2. The intent of the team concept is not to hold the team accountable for the action of individual members in the event of an operational error/deviation.

b. *Terms:* The following terms will be used in terminal facilities for the purpose of standardization.

1. *Tower Cab:* The area of control responsibility (delegated airspace and/or airport surface areas) of the tower team, and the team as a whole.

2. *Tower Position(s) (LC or GC):* That position which is in direct communications with the aircraft and ensures separation of aircraft in/on the area of jurisdiction.

3. *Tower Associate Position(s):* That position commonly referred to as "Local Assist," "Ground Assist," "Local Associate," or "Ground Associate."

4. *Tower Cab Coordinator Position (CC):* That position commonly referred to as "Coordinator."

5. *Flight Data (FD):* That position commonly referred to as "Flight Data."

6. *Clearance Delivery (CD):* That position commonly referred to as "Clearance."

c. Primary responsibilities of the Tower Team Positions:

1. ***Tower Position(s) (LC or GC):***

(a) Ensure separation.

(b) Initiate control instructions.

(c) Monitor and operate communications equipment.

(d) Utilize tower radar display(s).

(e) Utilize alphanumerics.

(f) Assist the Tower Associate Position with coordination.

(g) Scan tower cab environment.

(h) Ensure computer entries are completed for instructions or clearances issued or received.

(i) Ensure strip marking is completed for instructions or clearances issued or received.

(j) Process and forward flight plan information.

(k) Perform any functions of the Tower Team which will assist in meeting situation objectives.

2. ***Tower Associate Position(s):***

(a) Ensure separation.

(b) Operate interphones.

(c) Maintain awareness of tower cab activities.

(d) Utilize alphanumerics.

(e) Utilize tower radar display(s).

(f) Assist Tower Position by accepting/initiating coordination for the continued smooth operation of the tower cab and ensure that the Tower Position is made immediately aware of any actions taken.

(g) Manage flight plan information.

(h) Ensure computer entries are completed for instructions issued or received and enter instructions issued or received by a Tower Position.

(i) Ensure strip marking is completed for instructions issued or received and enter instructions issued or received by a Tower Position.

3. ***Tower Coordinator Position:***

(a) Perform interfacility/ position coordination for traffic actions.

(b) Advise the tower and the Tower Associate Position(s) of tower cab actions required to accomplish overall objectives.

(c) Perform any of the functions of the Tower Team which will assist in meeting situation objectives.

NOTE-
The Tower Positions have the responsibility for aircraft separation and traffic flows. The Tower Coordinator Position assumes responsibility for managing traffic flows and the Tower Positions retain responsibility for aircraft separation when the Tower Coordinator Position is staffed.

4. ***Flight Data:***

(a) Operate interphones.

(b) Process and forward flight plan information.

(c) Compile statistical data.

(d) Assist tower cab in meeting situation objectives.

(e) Observe and report weather information.

(f) Utilize alphanumerics.

5. ***Clearance Delivery:***

(a) Operate communications equipment.

(b) Process and forward flight plan information.

(c) Issue clearances and ensure accuracy of pilot read back.

(d) Assist tower cab in meeting situation objectives.

(e) Operate tower equipment.

(f) Utilize alphanumerics.

NOTE-
The Tower Positions have the responsibility for aircraft separation and traffic flows. The Tower Coordinator Position assumes responsibility for managing traffic flows and the Tower Positions retain responsibility for aircraft separation when the Tower Coordinator Position is staffed.

NOTE-
The LLWAS is designed to detect low level wind shear conditions around the periphery of an airport. It does not detect wind shear beyond that limitation.

REFERENCE-
FAAO 7210.3, Low Level Wind Shear Alert System (LLWAS), Para 10-3-3.

(a) If an alert is received, issue the airport wind and the displayed field boundary wind.

PHRASEOLOGY-
WIND SHEAR ALERT. AIRPORT WIND (direction) AT (velocity). (Location of sensor) BOUNDARY WIND (direction) AT (velocity).

(b) If multiple alerts are received, issue an advisory that there are wind shear alerts in two/several/all quadrants. After issuing the advisory, issue the airport wind in accordance with para 3-9-1, Departure Information, followed by the field boundary wind most appropriate to the aircraft operation.

PHRASEOLOGY-
WIND SHEAR ALERTS TWO/SEVERAL/ALL QUADRANTS. AIRPORT WIND (direction) AT (velocity). (Location of sensor) BOUNDARY WIND (direction) AT (velocity).

(c) If requested by the pilot, issue specific field boundary wind information even though the LLWAS may not be in alert status.

NOTE-
The requirements for issuance of wind information remain valid as appropriate under this paragraph, para 3-9-1, Departure Information and para 3-10-1, Landing Information.

2. LLWAS "Network Expansion" (LLWAS NE) which is integrated with TDWR, and LLWAS "Relocation/Sustainment" (LLWAS-RS) provide the capability of displaying microburst alerts, wind shear alerts and wind information oriented to the threshold or departure end of a runway. TDWR and WSP are also designed to detect wind shear and microburst activity. ITWS will also provide tornado detection and alert. The associated ribbon display allows the controller to read the displayed alert without any need for interpretation.

(a) If a wind shear or microburst alert is received for the runway in use, issue the alert information for that runway to arriving and departing aircraft as it is displayed on the ribbon display.

PHRASEOLOGY-
(Runway) (arrival/departure) WIND SHEAR/MICROBURST ALERT, (windspeed) KNOT GAIN/LOSS, (location).

EXAMPLE-
17A MBA 40K - 3MF

PHRASEOLOGY-
RUNWAY 17 ARRIVAL MICROBURST ALERT 40 KNOT LOSS 3 MILE FINAL.

EXAMPLE-
17D WSA 25K+ 2MD

PHRASEOLOGY-
RUNWAY 17 DEPARTURE WIND SHEAR ALERT 25 KNOT GAIN 2 MILE DEPARTURE.

(b) If requested by the pilot or deemed appropriate by the controller, issue the displayed wind information oriented to the threshold or departure end of the runway.

PHRASEOLOGY-
(Runway) DEPARTURE/THRESHOLD WIND (direction) AT (velocity).

(c) Alerts occurring on the edge of the system, or if the system is unable to distinguish between wind shear and microbursts; an alert message will be displayed advising of a possible wind shear outside of the system network.

PHRASEOLOGY-
(Appropriate wind or alert information) POSSIBLE WIND SHEAR OUTSIDE THE NETWORK.

(d) If unstable conditions produce multiple alerts, issue an advisory of multiple wind shear/microburst alerts followed by specific alert or wind information.

PHRASEOLOGY-
MULTIPLE WIND SHEAR/MICROBURST ALERTS (specific alert or wind information).

(e) When a microburst/tornado is detected, a statement shall be included on the ATIS broadcast, "MICROBURST/TORNADO ADVISORIES IN EFFECT." This item shall be included on the ATIS for at least 20 MINUTES following the microburst alert. Issue the displayed tornado advisory oriented to the direction from the airport.

PHRASEOLOGY-
TORNADO ALERT (direction from airport).

(f) The LLWAS-NE and LLWAS-RS are designed to operate with as many as 50 percent of the total sensors inoperative. When all three remote sensors designated for a specific runway arrival or departure wind display line are inoperative then the LLWAS-NE

or LLWAS-RS for that runway arrival/departure shall be considered out of service. When a specific runway arrival or departure wind display line is inoperative and wind shear/microburst activity is likely; (e.g.; frontal activity, convective storms, PIREP's), a statement shall be included on the ATIS, "WIND SHEAR AND MICROBURST INFORMATION FOR RUNWAY (runway number) ARRIVAL/ DEPARTURE NOT AVAILABLE."

NOTE-
The geographic situation display (GSD) is a supervisory planning tool and is not intended to be a primary tool for microburst, wind shear or tornado alerts.

3-1-9. USE OF TOWER RADAR DISPLAYS

a. Uncertified tower display workstations shall be used only as an aid to assist controllers in visually locating aircraft or in determining their spacial relationship to known geographical points. Radar services and traffic advisories are not to be provided using uncertified tower display workstations. General information may be given in an easy to understand manner, such as "to your right" or "ahead of you."

EXAMPLE-
"Follow the aircraft ahead of you passing the river at the stacks." "King Air passing left to right."

REFERENCE-
FAAO 7210.3, Functional Use of Certified Tower Radar Displays, Para 10-5-3.

b. Local controllers may use certified tower radar displays for the following purposes:

1. To determine an aircraft's identification, exact location, or spatial relationship to other aircraft.

NOTE-
This authorization does not alter visual separation procedures. When employing visual separation, the provisions of para 7-2-1, Visual Separation, apply unless otherwise authorized by AAT-1.

REFERENCE-
FAAO 7110.65, Primary Radar Identification Methods, Para 5-3-2.
FAAO 7110.65, Beacon Identification Methods, Para 5-3-3.
FAAO 7110.65, Terminal Automation Systems Identification Methods, Para 5-3-4.

2. To provide aircraft with radar traffic advisories.

3. To provide a direction or suggested headings to VFR aircraft as a method for radar identification or as an advisory aid to navigation.

PHRASEOLOGY-
(Identification), PROCEED (direction)-BOUND, (other instructions or information as necessary),

or

(identification), SUGGESTED HEADING (degrees), (other instructions as necessary).

NOTE-
It is important that the pilot be aware of the fact that the directions or headings being provided are suggestions or are advisory in nature. This is to keep the pilot from being inadvertently mislead into assuming that radar vectors (and other associated radar services) are being provided when, in fact, they are not.

4. To provide information and instructions to aircraft operating within the surface area for which the tower has responsibility.

EXAMPLE-
"TURN BASE LEG NOW."

NOTE-
Unless otherwise authorized, tower radar displays are intended to be an aid to local controllers in meeting their responsibilities to the aircraft operating on the runways or within the surface area. They are not intended to provide radar benefits to pilots except for those accrued through a more efficient and effective local control position. In addition, local controllers at nonapproach control towers must devote the majority of their time to visually scanning the runways and local area; an assurance of continued positive radar identification could place distracting and operationally inefficient requirements upon the local controller. Therefore, since the requirements of para 5-3-1, Application, cannot be assured, the radar functions prescribed above are not considered to be radar services and pilots should not be advised of being in "radar contact."

c. Additional functions may be performed provided the procedures have been reviewed and authorized by appropriate management levels.

REFERENCE-
FAAO 7110.65, Minima, Para 5-5-4.

3-1-10. OBSERVED ABNORMALITIES

When requested by a pilot or when you deem it necessary, inform an aircraft of any observed abnormal aircraft condition.

PHRASEOLOGY-
(Item) APPEAR/S (observed condition).

EXAMPLE-
"Landing gear appears up."
"Landing gear appears down and in place."
"Rear baggage door appears open."

Section 3. Airport Conditions

3-3-1. LANDING AREA CONDITION

If you observe or are informed of any condition which affects the safe use of a landing area:

NOTE-
1. *The airport management/military operations office is responsible for observing and reporting the condition of the landing area.*

2. *It is the responsibility of the agency operating the airport to provide the tower with current information regarding airport conditions.*

3. *A disabled aircraft on a runway, after occupants are clear, is normally handled by flight standards and airport management/military operations office personnel in the same manner as any obstruction; e.g., construction equipment.*

a. Relay the information to the airport manager/ military operations office concerned.

b. Copy verbatim any information received and record the name of the person submitting it.

c. Confirm information obtained from other than authorized airport or FAA personnel unless this function is the responsibility of the military operations office.

NOTE-
Civil airport managers are required to provide a list of airport employees who are authorized to issue information concerning conditions affecting the safe use of the airport.

d. If you are unable to contact the airport management or operator, issue a NOTAM publicizing an unsafe condition and inform the management or operator as soon as practicable.

EXAMPLE-
"DISABLED AIRCRAFT ON RUNWAY."

NOTE-
1. *Legally, only the airport management/military operations office can close a runway.*

2. *Military controllers are not authorized to issue NOTAM's. It is the responsibility of the military operations office.*

e. Issue to aircraft only factual information, as reported by the airport management concerning the condition of the runway surface, describing the accumulation of precipitation.

EXAMPLE-
"ALL RUNWAYS COVERED BY COMPACTED SNOW SIX INCHES DEEP."

REFERENCE-
FAAO 7110.65, Airport Conditions, Para 4-7-12.

3-3-2. CLOSED/UNSAFE RUNWAY INFORMATION

If an aircraft requests to takeoff, land, or touch-and-go on a closed or unsafe runway, inform the pilot the runway is closed or unsafe, and

a. If the pilot persists in his/her request, quote him/her the appropriate parts of the NOTAM applying to the runway and inform him/her that a clearance cannot be issued.

b. Then, if the pilot insists and in your opinion the intended operation would not adversely affect other traffic, inform him/her that the operation will be at his/her own risk.

PHRASEOLOGY-
RUNWAY (runway number) CLOSED/UNSAFE.

If appropriate, (quote NOTAM information),

UNABLE TO ISSUE DEPARTURE/LANDING/TOUCH-AND-GO CLEARANCE.
DEPARTURE/LANDING/TOUCH-AND-GO WILL BE AT YOUR OWN RISK.

c. Except as permitted by para 4-8-7, Side-step Maneuver, where parallel runways are served by separate ILS/MLS systems and one of the runways is closed, the ILS/MLS associated with the closed runway should not be used for approaches unless not using the ILS/MLS would have an adverse impact on the operational efficiency of the airport.

REFERENCE-
FAAO 7110.65, Landing Clearance, Para 3-10-5.
FAAO 7110.65, Airport Conditions, Para 4-7-12.

3-3-3. TIMELY INFORMATION

Issue airport condition information necessary for an aircraft's safe operation in time for it to be useful to the pilot. Include the following, as appropriate:

a. Construction work on or immediately adjacent to the movement area.

b. Rough portions of the movement area.

c. Braking conditions caused by ice, snow, slush, or water.

d. Snowdrifts or piles of snow on or along the edges of the area and the extent of any plowed area.

e. Parked aircraft on the movement area.

f. Irregular operation of part or all of the airport lighting system.

g. Volcanic ash on any airport surface area and whether the ash is wet or dry (if known).

NOTE-
Braking action on wet ash may be degraded. Dry ash on the runway may necessitate minimum use of reverse thrust.

h. Other pertinent airport conditions.

REFERENCE-
FAAO 7110.65, Airport Conditions, Para 4-7-12.
FAAO 7110.65, Reporting Essential Flight Information, Para 2-1-9.
FAAO 7110.65, Altitude Restricted Low Approach, Para 3-10-10.

3-3-4. BRAKING ACTION

Furnish quality of braking action, as received from pilots or the airport management, to all aircraft as follows:

a. Describe the quality of braking action using the terms "good," "fair," "poor," "nil," or a combination of these terms. If the pilot or airport management reports braking action in other than the foregoing terms, ask him/her to categorize braking action in these terms.

NOTE-
The term "nil" is used to indicate bad or no braking action.

b. Include type of aircraft or vehicle from which the report is received.

EXAMPLE-
"Braking action fair to poor, reported by a heavy D-C Ten."
"Braking action poor, reported by a Boeing Seven Twenty-Seven."

c. If the braking action report affects only a portion of a runway, obtain enough information from the pilot or airport management to describe the braking action in terms easily understood by the pilot.

EXAMPLE-
"Braking action poor first half of runway, reported by a Lockheed Ten Eleven."
"Braking action poor beyond the intersection of runway two seven, reported by a Boeing Seven Twenty-Seven."

NOTE-
Descriptive terms, such as the first or the last half of the runway, should normally be used rather than landmark descriptions, such as opposite the fire station, south of a taxiway, etc.. Landmarks extraneous to the landing runway are difficult to distinguish during low visibility, at night, or anytime a pilot is busy landing an aircraft.

d. Furnish runway friction measurement readings/values as received from airport management to aircraft as follows:

1. Furnish information as received from the airport management to pilots on the ATIS at locations where friction measuring devices, such as MU-Meter, Saab Friction Tester (SFT), and Skiddometer are in use only when the MU values are 40 or less. Use the runway followed by the MU number for each of the three runway segments, time of report, and a word describing the cause of the runway friction problem. Do not issue MU values when all three segments of the runway have values reported greater than 40.

EXAMPLE-
"Runway two seven, MU forty-two, forty-one, twenty-eight at one zero one eight Zulu, ice."

2. Issue the runway surface condition and/or the Runway Condition Reading (RCR), if provided, to all USAF and ANG aircraft. Issue the RCR to other aircraft upon pilot request.

EXAMPLE-
"Ice on runway, RCR zero five, patchy."

NOTE-
1. *USAF has established RCR procedures for determining the average deceleration readings of runways under conditions of water, slush, ice, or snow. The use of the RCR code is dependent upon the pilot's having a "stopping capability chart" specifically applicable to his/her aircraft.*

2. *USAF offices furnish RCR information at airports serving USAF and ANG aircraft.*

REFERENCE-
FAAO 7110.65, Airport Conditions, Para 4-7-12.
FAAO 7110.65, Braking Action Advisories, Para 3-3-5.

3-3-5. BRAKING ACTION ADVISORIES

a. When runway braking action reports are received from pilots or the airport management which include the terms "poor" or "nil" or whenever weather conditions are conducive to deteriorating or rapidly changing runway conditions, include on the ATIS broadcast the statement "Braking Action Advisories are in effect."

REFERENCE-
FAAO 7210.3, Automatic Terminal Information Service (ATIS), Para 10-4-1.

b. During the time Braking Action Advisories are in effect, take the following action:

1. Issue the latest braking action report for the runway in use to each arriving and departing aircraft early enough to be of benefit to the pilot. When

possible, include reports from heavy jet aircraft when the arriving or departing aircraft is a heavy jet.

2. If no report has been received for the runway of intended use, issue an advisory to that effect.

PHRASEOLOGY-
NO BRAKING ACTION REPORTS RECEIVED FOR RUNWAY (runway number).

3. Advise the airport management that runway braking action reports of "poor" or "nil" have been received.

REFERENCE-
FAAO 7210.3, Letters of Agreement, Para 4-3-1.

4. Solicit PIREP's of runway braking action.

REFERENCE-
FAAO 7110.65, PIREP Information, Para 2-6-3.

c. Include runway friction measurement/values received from airport management on the ATIS. Furnish the information when requested by the pilot in accordance with para 3-3-4, Braking Action.

REFERENCE-
FAAO 7110.65, Content, Para 2-9-3.
FAAO 7110.65, Departure Information, Para 3-9-1.
FAAO 7110.65, Landing Information, Para 3-10-1.
FAAO 7110.65, Airport Conditions, Para 4-7-12.

3-3-6. ARRESTING SYSTEM OPERATION

a. For normal operations, arresting systems remotely controlled by ATC shall remain in the retracted or down position.

NOTE-
1. *USN- Runway Arresting Gear- barriers are not operated by ATC personnel. Readiness/rigging of the equipment is the responsibility of the operations department.*

2. *A request to raise a barrier or hook cable means the barrier or cable on the departure end of the runway. If an approach end engagement is required, the pilot or military authority will specifically request that the approach end cable be raised.*

REFERENCE-
FAAO 7610.4, Chapter 9, Section 3. Aircraft Arresting System, Single Frequency Approach (SFA), Simulated Flameout (SFO), Celestial Navigation (CELNAV) Training, Para 9-3-1 through Para 9-3-8.

b. Raise aircraft arresting systems whenever:

1. Requested by a pilot.

NOTE-
The standard emergency phraseology for a pilot requesting an arresting system to be raised for immediate engagement is:

"BARRIER - BARRIER - BARRIER"

or

"CABLE - CABLE - CABLE."

2. Requested by military authority; e.g., airfield manager, supervisor of flying, mobile control officer, etc..

NOTE-
USAF. Web barriers at the departure end of the runway may remain in the up position when requested by the senior operational commander. The IFR Enroute Supplement and AP-1will describe specific barrier configuration. ATC will advise transient aircraft of the barrier configuration using the phraseology in subpara c, below.

3. A military jet aircraft is landing with known or suspected radio failure or conditions (drag chute/hydraulic/electrical failure, etc.) that indicate an arresting system may be needed. Exceptions are authorized for military aircraft which cannot engage an arresting system (C-9, C-141, C-5, T-39, etc.) and should be identified in a letter of agreement and/or appropriate military directive.

c. When requested by military authority due to freezing weather conditions or malfunction of the activating mechanism, the barrier/cable may remain in a raised position provided aircraft are advised.

PHRASEOLOGY-
YOUR DEPARTURE/LANDING WILL BE TOWARD/OVER A RAISED BARRIER/CABLE ON RUNWAY (number), (location, distance, as appropriate).

d. Inform civil and U.S. Army aircraft whenever rubber supported cables are in place at the approach end of the landing runway, and include the distance of the cables from the threshold. This information may be omitted if it is published in the "Notices to Airmen" publication/DOD FLIP.

EXAMPLE-
"Runway One Four arresting cable one thousand feet from threshold."

e. When arresting system operation has been requested, inform the pilot of the indicated barrier/cable position.

PHRASEOLOGY-
(Identification), BARRIER/CABLE INDICATES UP/DOWN. CLEARED FOR TAKEOFF/TO LAND.

f. Time permitting, advise pilots of the availability of all arresting systems on the runway in question when a pilot requests barrier information.

g. If an aircraft engages a raised barrier/cable, initiate crash alarm procedures immediately.

h. For preplanned practice engagements not associated with emergencies, crash alarm systems need not be activated if, in accordance with local military operating procedures, all required notifications are made before the practice engagement.

REFERENCE-
FAAO 7110.65, Airport Conditions, Para 4-7-12.

3-3-7. FAR FIELD MONITOR (FFM) REMOTE STATUS UNIT

a. *Background.*

1. To meet the demand for more facilities capable of operating under CAT III weather, Type II equipment is being upgraded to Integrity Level 3. This integrity level will support operations which place a high degree of reliance on ILS guidance for positioning through touchdown.

2. Installation of the FFM remote status indicating units is necessary to attain the integrity necessary to meet internationally agreed upon reliability values in support of CAT III operations on Type II ILS equipment. The remote status indicating unit used in conjunction with Type II equipment adds a third integrity test; thereby, producing an approach aid which has integrity capable of providing Level 3 service.

3. The remote status sensing unit, when installed in the tower cab, will give immediate indications of localizer out-of-tolerance conditions. The alarm in the FFM remote status sensing unit indicates an inoperative or an out-of-tolerance localizer signal; e.g., the course may have shifted due to equipment malfunction or vehicle/aircraft encroachment into the critical area.

b. *Procedures.*

1. Operation of the FFM remote sensing unit will be based on the prevailing weather. The FFM remote sensing unit shall be operational when the weather is below CAT I ILS minimums.

2. When the weather is less than that required for CAT I operations, the GRN-27 FFM remote status sensing unit shall be set at:

(a) "CAT II" when the RVR is less than 2,400 feet.

(b) "CAT III" when the RVR is less than 1,200 feet.

3. When the remote status unit indicates that the localizer FFM is in alarm (aural warning following the preset delay) and:

(a) The aircraft is outside the middle marker (MM), check for encroachment those portions of the critical area that can be seen from the tower. It is understood that the entire critical area may not be visible due to low ceilings and poor visibility. The check is strictly to determine possible causal factors for the out-of-tolerance situation. If the alarm has not cleared prior to the aircraft's arriving at the MM, immediately issue an advisory that the FFM remote status sensing unit indicates the localizer is unreliable.

(b) The aircraft is between the MM and the inner marker (IM), immediately issue an advisory that the FFM remote status sensing unit indicates the localizer is unreliable.

PHRASEOLOGY-
CAUTION, MONITOR INDICATES RUNWAY (number) LOCALIZER UNRELIABLE.

(c) The aircraft has passed the IM, there is no action requirement. Although the FFM has been modified with filters which dampen the effect of false alarms, you may expect alarms when aircraft are located between the FFM and the localizer antenna either on landing or on takeoff.

REFERENCE-
FAAO 7110.65, Airport Conditions, Para 4-7-12.

roll. In such cases, append one of the following ATC instructions as appropriate:

1. HOLD SHORT OF RUNWAY, *or*

2. HOLD IN POSITION.

i. *USAF/USN.* When issuing additional instructions or information to an aircraft holding in takeoff position, include instructions to continue holding or taxi off the runway, unless it is cleared for takeoff.

PHRASEOLOGY-
CONTINUE HOLDING,

or

TAXI OFF THE RUNWAY.

REFERENCE-
FAAO 7110.65, Altitude Restricted Low Approach, Para 3-10-10.

3-9-5. ANTICIPATING SEPARATION

Takeoff clearance needs not be withheld until prescribed separation exists if there is a reasonable assurance it will exist when the aircraft starts takeoff roll.

3-9-6. SAME RUNWAY SEPARATION

Separate a departing aircraft from a preceding departing or arriving aircraft using the same runway by ensuring that it does not begin takeoff roll until:

a. The other aircraft has departed and crossed the runway end or turned to avert any conflict. If you can determine distances by reference to suitable landmarks, the other aircraft needs only be airborne if the following minimum distance exists between aircraft:
(See FIG 3-9-1 and FIG 3-9-2.)

1. When only Category I aircraft are involved- *3,000 feet.*

2. When a Category I aircraft is preceded by a Category II aircraft- *3,000 feet.*

3. When either the succeeding or both are Category II aircraft- *4,500 feet.*

4. When either is a Category III aircraft- *6,000 feet.*

5. When the succeeding aircraft is a helicopter, visual separation may be applied in lieu of using distance minima.

Same Runway Separation
[View 1]

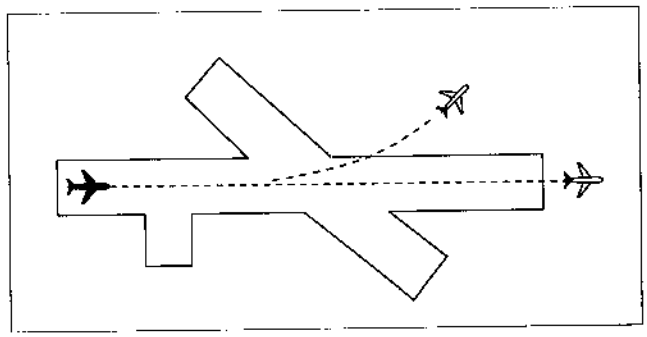

FIG 3-9-1

Same Runway Separation
[View 2]

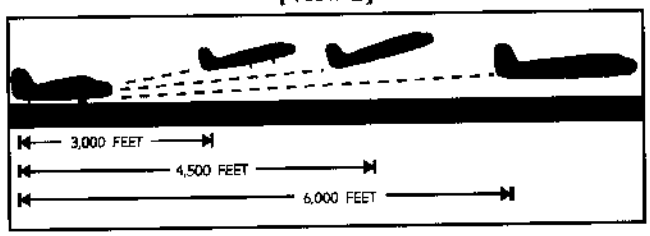

FIG 3-9-2

NOTE-
Aircraft same runway separation (SRS) categories are specified in Appendices A, B, and C and based upon the following definitions:

CATEGORY I- small aircraft weighing 12,500 lbs. or less, with a single propeller driven engine, and all helicopters.

CATEGORY II- small aircraft weighing 12,500 lbs. or less, with propeller driven twin-engines.

CATEGORY III- all other aircraft.

b. A preceding landing aircraft is clear of the runway.
(See FIG 3-9-3.)

Preceding Landing Aircraft Clear of Runway

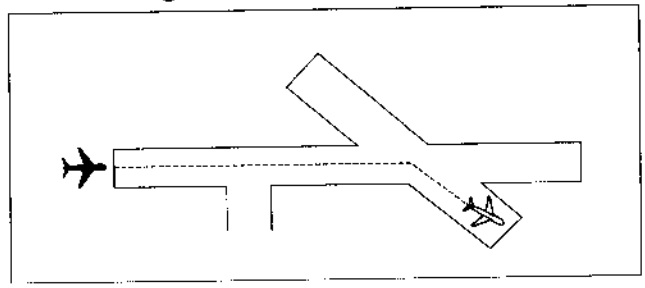

FIG 3-9-3

REFERENCE-
P/CG Term- Clear of the Runway.

WAKE TURBULENCE APPLICATION

c. Do not issue clearances which imply or indicate approval of rolling takeoffs by heavy jet aircraft except as provided in para 3-1-14, Ground Operations When Volcanic Ash is Present.

d. Do not issue clearances to a small aircraft to taxi into position and hold on the same runway behind a departing heavy jet aircraft to apply the necessary intervals.

REFERENCE-
AC 90-23, Aircraft Wake Turbulence.

e. The minima in para 5-5-4, Minima, may be applied in lieu of the 2 minute requirement in subpara f. When para 5-5-4, Minima, are applied, ensure that the appropriate radar separation exists at or prior to the time an aircraft becomes airborne when taking off behind a heavy jet/B757.

NOTE-
The pilot may request additional separation; i.e., 2 minutes vs. 4 miles, but should make this request before taxiing on the runway.

f. Separate IFR/VFR aircraft taking off behind a heavy jet/B757 departure by 2 minutes, when departing:

NOTE-
Takeoff clearance to the following aircraft should not be issued until 2 minutes after the heavy jet/B757 begins takeoff roll.

1. The same runway. (See FIG 3-9-4.)

2 Minute Separation

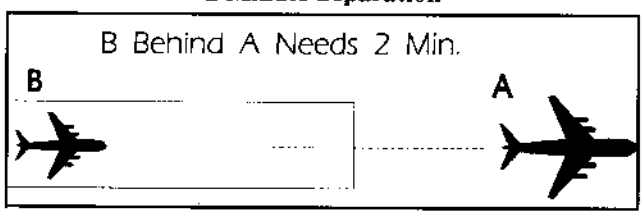

FIG 3-9-4

2. A parallel runway separated by less than 2,500 feet.

g. Separate an aircraft from a heavy jet/B757 when operating on a runway with a displaced landing threshold if projected flight paths will cross- *2 minutes when:*

1. A departure follows a heavy jet/B757 arrival.

2. An arrival follows a heavy jet/B757 departure.

h. Air traffic controllers shall not approve pilot requests to deviate from the required wake turbulence time interval if the preceding aircraft is a heavy jet/B757.

i. Separate a small aircraft behind a large aircraft taking off or making a low/missed approach when utilizing opposite direction takeoffs on the same runway by *3 minutes* unless a pilot has initiated a request to deviate from the 3-minute interval. In the latter case, issue a wake turbulence advisory before clearing the aircraft for takeoff.

NOTE-
1. *A request for takeoff does not initiate a waiver request.*
2. *To initiate a waiver of the 3 minute rule, the request for takeoff must be accompanied by a request to deviate from the 3-minute rule.*

REFERENCE-
FAAO 7110.65, Aircraft Information: Appendix A, Appendix B, and Appendix C.

j. Separate aircraft behind a heavy jet/B757 departing or making a low/missed approach when utilizing opposite direction takeoffs or landings on the same or parallel runways separated by less than 2,500 feet- *3 minutes.*

k. Inform an aircraft when it is necessary to hold in order to provide the required *3-minute* interval.

PHRASEOLOGY-
HOLD FOR WAKE TURBULENCE.

REFERENCE-
FAAO 7110.65, Wake Turbulence Separation for Intersection Departures, Para 3-9-7.

3-9-7. WAKE TURBULENCE SEPARATION FOR INTERSECTION DEPARTURES

a. Apply the following wake turbulence criteria for intersection departures:

1. Separate a small aircraft taking off from an intersection on the same runway (same or opposite direction takeoff) or a parallel runway separated by less than 2,500 feet with runway thresholds offset by 500 feet or more behind a preceding departing large aircraft by ensuring that the small aircraft does not start takeoff roll until at least 3 minutes after the large aircraft has taken off.

2. Separate any aircraft taking off from an intersection on the same runway (same or opposite direction takeoff), parallel runways separated by less than 2,500 feet, and parallel runways separated by less than 2,500 feet with runway thresholds offset by 500 feet or more, by ensuring that the aircraft does not start

REFERENCE-
AC 90-23, Aircraft Wake Turbulence, Pilot Responsibility, Para 12.
FAAO 7110.65, Altitude Restricted Low Approach, Para 3-10-10.

EXAMPLE-
1. *"Runway two seven left cleared to land, caution wake turbulence, heavy Boeing 747 departing runway two seven right."*

2. *"Number two follow Boeing 757 on two-mile final. Caution wake turbulence."*

3-10-4. INTERSECTING RUNWAY SEPARATION

a. Separate an arriving aircraft using one runway from another aircraft using an intersecting runway or a nonintersecting runway when the flight paths intersect by ensuring that the arriving aircraft does not cross the landing threshold or flight path of the other aircraft until one of the following conditions exists:

1. The preceding aircraft has departed and passed the intersection/flight path or is airborne and turning to avert any conflict.
(See FIG 3-10-6 and FIG 3-10-7.)

Intersecting Runway Separation

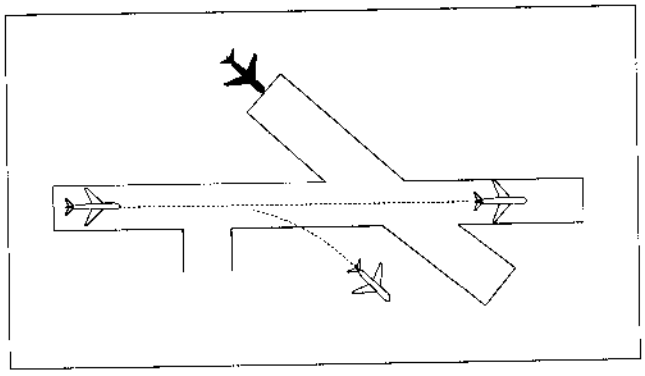

FIG 3-10-6

2. A preceding arriving aircraft is clear of the landing runway, completed landing roll and will hold short of the intersection/flight path, or has passed the intersection/flight path.
(See FIG 3-10-8 and FIG 3-10-9.)

Intersecting Runway Separation

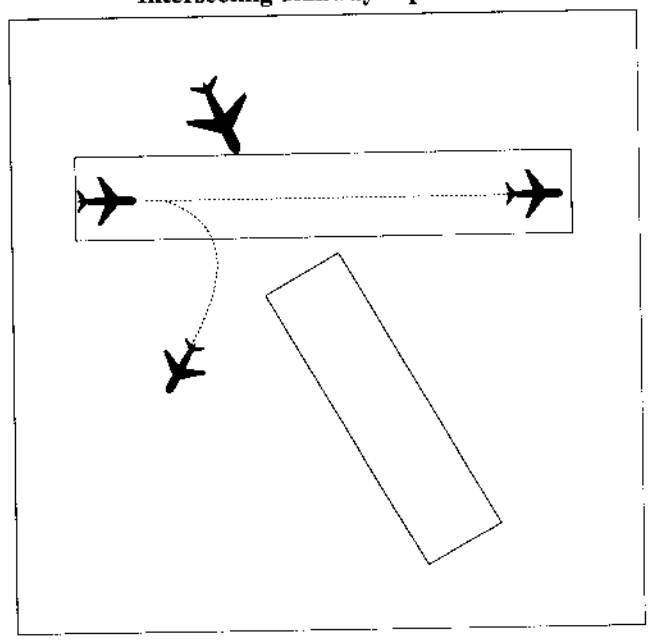

FIG 3-10-7

Intersection Runway Separation

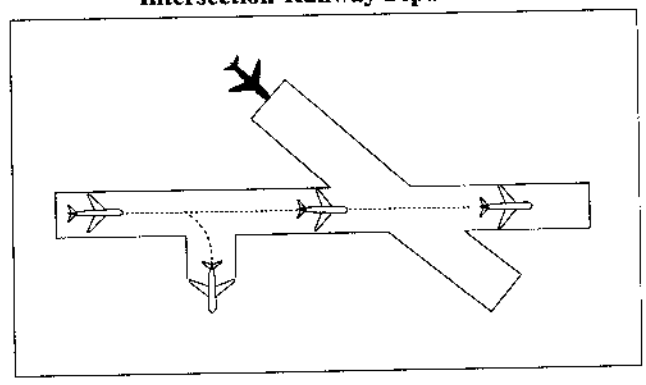

FIG 3-10-8

b. *USAF must secure major command approval prior to conducting Land and Hold Short Operations (LAHSO).* "USN NOT APPLICABLE." An aircraft may be authorized to takeoff from one runway while another aircraft lands simultaneously on an intersecting runway or an aircraft lands on one runway while another aircraft lands simultaneously on an intersecting runway, or an aircraft lands to hold short of an intersecting taxiway or some other predetermined point such as an approach/departure flight path using procedures specified in the current LAHSO directive. The procedure shall be approved by the air traffic manager and be in accordance with a facility directive. The following conditions apply:

NOTE-
Application of these procedures does not relieve controllers from the responsibility of providing other appropriate separation contained in this order.

REFERENCE-
FAAO 7210.3, Land and Hold Short Operations (LAHSO), Para 10-3-7.

Intersection Runway Separation

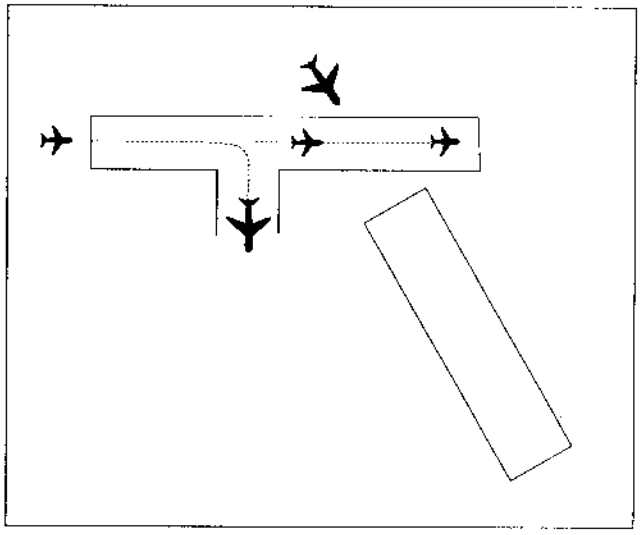

FIG 3-10-9

1. A simultaneous takeoff and landing operation shall only be conducted in VFR conditions.

2. Instruct the landing aircraft to hold short of the intersecting runway being used by the aircraft taking off. In the case of simultaneous landings and no operational benefit is lost, restrict the aircraft of the lesser weight category (if known). LAHSO clearances shall only be issued to aircraft that are listed in the current LAHSO directive, whose Available Landing Distance (ALD) does not exceed the landing distance requirement for the runway condition.

PHRASEOLOGY-
HOLD SHORT OF RUNWAY (runway number), (traffic, type aircraft or other information).

NOTE-
Pilots who prefer to use the full length of the runway or a runway different from that specified are expected to advise ATC prior to landing.

3. Issue traffic information to both aircraft involved and obtain an acknowledgment from each. Request a read back of hold short instructions when they are not received from the pilot of the restricted aircraft.

EXAMPLE-
1. *"Runway one eight cleared to land, hold short of runway one four left, traffic, (type aircraft) landing runway one four left."*

(When pilot of restricted aircraft responds with only acknowledgment):

"Runway one four left cleared to land, traffic, (type aircraft) landing runway one eight will hold short of the intersection."

"Read back hold short instructions."

2. *"Runway three six cleared to land, hold short of runway three three, traffic, (type aircraft) departing runway three three."*

"Traffic, (type aircraft) landing runway three six will hold short of the intersection, runway three three cleared for takeoff."

4. Issue the measured distance from the landing threshold to the hold short point rounded "down" to the nearest 50-foot increment if requested by either aircraft.

EXAMPLE-
"Five thousand fifty feet available."

5. The conditions in subparas b2, 3, and 4 shall be met in sufficient time for the pilots to take other action, if desired, and no later than the time landing clearance is issued.

6. Land and Hold Short runways must be free of any contamination as described in the current LAHSO directive, with no reports that braking action is less than good.

7. There is no tailwind for the landing aircraft restricted to hold short of the intersection. The wind may be described as "calm" when appropriate.

REFERENCE-
FAAO 7110.65, Calm Wind Conditions, Para 2-6-5.

8. The aircraft required landing distances are listed in the current LAHSO directive.

9. STOL aircraft operations are in accordance with a letter of agreement with the aircraft operator/pilot or the pilot confirms that it is a STOL aircraft.

Section 5. Altitude Assignment and Verification

4-5-1. VERTICAL SEPARATION MINIMA

Separate instrument flight rules (IFR) aircraft using the following minima between altitudes:

a. Up to and including FL 290- 1,000 feet.

b. Above FL 290- 2,000 feet, except:

1. In oceanic airspace, above FL 450 between a supersonic and any other aircraft- 4,000 feet.

2. Above FL 600 between military aircraft- 5,000 feet.

3. Apply 1,000 feet between approved aircraft if:

(a) Operating within airspace and altitude(s) designated for reduced vertical separation minimum (RVSM) or,

(b) Operating within RVSM transition airspace and designated altitude(s) if:

(1) En route to/from RVSM designated airspace; or,

(2) Within the Anchorage FIR.

NOTE-
1. *Oceanic separation procedures are supplemented in Chapter 8; Section 7, Section 8, Section 9, and Section 10.*

2. *RVSM and RVSM transition airspace is designated in ICAO Regional Supplementary Document, Doc. 7030.4, and via International NOTAM.*

REFERENCE-
FAAO 7110.65, Vertical Application, Para 5-5-5.
FAAO 7110.65, Application, Para 6-6-1.
FAAO 7110.65, Military Operations Above FL 600, Para 9-3-11.

4-5-2. FLIGHT DIRECTION

Clear aircraft at altitudes according to the TBL 4-5-1.

Altitude Assignment

Aircraft Operating	*On course degrees magnetic*	*Assign*	*Examples*
Below 3,000 feet above surface	Any course	Any altitude	
Below FL 290	0 through 179	Odd cardinal altitude or flight levels at intervals of 2,000 feet	3,000 5,000, FL 250, FL 270
	180 through 359	Even cardinal altitude or flight levels at intervals of 2,000 feet	4,000, 6000, FL 240, FL 260
At or above FL 290	0 through 179	Odd cardinal flight levels at intervals of 4,000 feet beginning with FL 290	FL 290, FL 330, FL 370
	180 through 359	Odd cardinal flight levels at intervals of 4,000 feet beginning with FL 310	FL 310, FL 350, FL 390
One way routes (except in composite systems)	Any course	Any cardinal altitude or flight level below FL 290 or any odd cardinal flight level at or above FL 290	FL 270, FL 280, FL 310, FL 330
Within an ALTRV	Any course	Any altitude or flight level	
In transition to/ from or within Oceanic airspace where composite separation is authorized	Any course	Any odd or even cardinal flight level including those above FL 290	FL 280, FL 290, FL 300, FL 310, FL 320, FL 330, FL 340
In aerial refueling tracks and anchors	Any course	Altitude blocks as requested. Any altitude or flight level	050B080, FL 1 80B220, FL 280B310
Aircraft within RVSM or RVSM transition airspace	Any course	Any designated cardinal altitude	FL 330, FL 340, FL 350, FL 360

TBL 4-5-1

NOTE-
Oceanic separation procedures are supplemented in Chapter 8; Section 7, Section 8, Section 9, and Section 10.

REFERENCE-
FAAO 7110.65, Exceptions, Para 4-5-3.
FAAO 7110.65, Altitude Assignments, Para 7-7-5.
FAAO 7110.65, Separation Minima, Para 9-4-2.

4-5-3. EXCEPTIONS

When traffic, meteorological conditions, or aircraft operational limitations prevent assignment of altitudes prescribed in para 4-5-2, Flight Direction, assign any cardinal altitude or flight level below FL 290 or any odd cardinal flight level at or above FL 290 without regard to direction of flight as follows:

NOTE-
See para 2-3-9, Control Symbology, for control abbreviations and symbols to be used in conjunction with this paragraph.

a. For traffic conditions, take this action only if one of the following conditions exists:

1. Aircraft remain within a facility's area and prior approval is obtained from other affected positions or sectors or the operations are covered in a Facility Directive.

2. Aircraft will proceed beyond the facility's area and specific operations and procedures permitting random altitude assignment are covered in a letter of agreement between the appropriate facilities.

NOTE-
Those en route facilities using host software that provides capability for passing interim altitude shall include the specific operations and procedures for use of this procedure in a letter of agreement between the appropriate facilities.

b. Military aircraft are operating on random routes and prior approval is obtained from the facility concerned.

c. For meteorological conditions, take this action only if you obtain prior approval from other affected positions or sectors within your facility and, if necessary, from the adjacent facility concerned.

d. For aircraft operational limitations, take this action only if the pilot informs you the available appropriate altitude exceeds the operational limitations of his/her aircraft and only after you obtain prior approval from other affected positions or sectors within your facility and, if necessary, from the adjacent facility concerned.

e. For mission requirements, take this action only when the aircraft is operating on an MTR.

REFERENCE-
FAAO 7110.65, Altitude Assignments, Para 7-7-5.
FAAO 7110.65, Separation Minima, Para 9-4-2.

f. For facilities utilizing URET CCLD, take this action without coordination when URET CCLD functionalities determine that coordination is not required.

4-5-4. LOWEST USABLE FLIGHT LEVEL

If a change in atmospheric pressure affects a usable flight level in your area of jurisdiction, use TBL 4-5-2 to determine the lowest usable flight level to clear aircraft at or above 18,000 feet MSL.

Lowest Usable FL

Altimeter Setting	*Lowest Usable FL*
29.92" or higher	180
29.91" to 28.92"	190
28.91" to 27.92"	200

TBL 4-5-2

REFERENCE-
FAAO 7110.65, Separation Minima, Para 9-4-2.

4-5-5. ADJUSTED MINIMUM FLIGHT LEVEL

When the prescribed minimum altitude for IFR operations is at or above 18,000 feet MSL and the atmospheric pressure is less than 29.92", add the appropriate adjustment factor from TBL 4-5-3 to the flight level equivalent of the minimum altitude in feet to determine the adjusted minimum flight level.

Minimum FL Adjustment

Altimeter Setting	*Adjustment Factor*
29.92" or higher	None
29.91" to 29.42"	500 feet
29.41" to 28.92"	1,000 feet
28.91" to 28.42"	1,500 feet
28.41" to 27.92"	2,000 feet

TBL 4-5-3

4-5-6. MINIMUM EN ROUTE ALTITUDES

Except as provided in subparas a and b below, assign altitudes at or above the MEA for the route segment being flown. When a lower MEA for subsequent segments of the route is applicable, issue the lower MEA only after the aircraft is over or past the Fix/NAVAID beyond which the lower MEA applies unless a crossing restriction at or above the higher MEA is issued.

a. An aircraft may be cleared below the MEA but not below the MOCA for the route segment being flown if the altitude assigned is at least 300 feet above the floor of controlled airspace and one of the following conditions are met:

NOTE-
Controllers must be aware that in the event of radio communications failure, a pilot will climb to the MEA for the route segment being flown.

1. Nonradar procedures are used only within 22 miles of a VOR, VORTAC, or TACAN.

2. Radar procedures are used only when an operational advantage is realized and the following actions are taken:

(a) Radar navigational guidance is provided until the aircraft is within 22 miles of the NAVAID, and

(b) Lost communications instructions are issued.

b. An aircraft may be cleared to operate on jet routes below the MEA (but not below the prescribed minimum altitude for IFR operations) or above the maximum authorized altitude if, in either case, radar service is provided.

NOTE-
Minimum en route and maximum authorized altitudes for certain jet route segments have been established above the floor of the jet route structure due to limitations on navigational signal coverage.

c. Where a higher altitude is required because of an MEA, the aircraft shall be cleared to begin climb to the higher MEA as follows:

1. If no MCA is specified, prior to or immediately after passing the fix where the higher MEA is designated. (See FIG 4-5-1.)

No MCA Specified

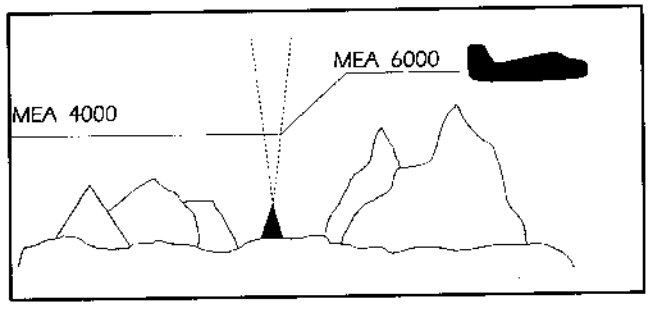

FIG 4-5-1

2. If a MCA is specified, prior to the fix so as to cross the fix at or above the MCA. (See FIG 4-5-2.)

MCA Specified

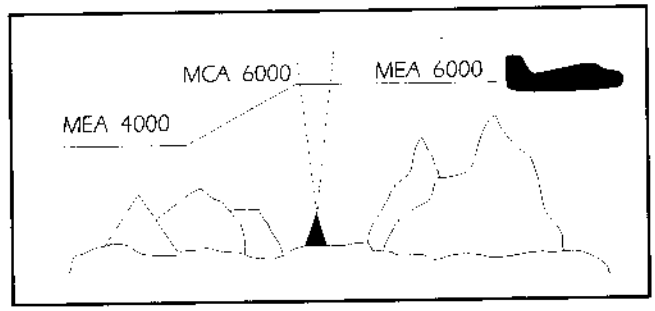

FIG 4-5-2

d. Where MEA's have not been established, clear an aircraft at or above the minimum altitude for IFR operations prescribed by 14 CFR Section 91.177.

REFERENCE-
FAAO 7110.65, IFR-VFR and VFR-IFR Flights, Para 4-2-8.
FAAO 7110.65, Route Use, Para 4-4-1.
FAAO 7110.65, Chapter 5, Section 6, Application, Para 5-6-1.
FAAO 7110.65, Altitude Assignments, Para 7-7-5.

4-5-7. ALTITUDE INFORMATION

Issue altitude instructions as follows:

REFERENCE-
FAAO 7110.65, Clearance Items, Para 4-2-1.

a. Altitude to maintain or cruise. When issuing cruise in conjunction with an airport clearance limit and an unpublished route will be used, issue an appropriate crossing altitude to ensure terrain clearance until the aircraft reaches a fix, point, or route where the altitude information is available to the pilot. When issuing a cruise clearance to an airport which does not have a published instrument approach, a cruise clearance without a crossing restriction may be issued.

PHRASEOLOGY-
MAINTAIN/CRUISE (altitude). MAINTAIN (altitude) UNTIL (time, fix, waypoint),

or

(number of miles or minutes) MILES/MINUTES PAST (fix, waypoint).

CROSS (fix, point, waypoint),

or

INTERCEPT (route) AT OR ABOVE (altitude), CRUISE (altitude).

NOTE-
1. *The crossing altitude must assure IFR obstruction clearance to the point where the aircraft is established on a segment of a published route or instrument approach procedure.*

2. *When an aircraft is issued a cruise clearance to an airport which does not have a published instrument approach procedure, it is not possible to satisfy the requirement for a crossing altitude that will ensure terrain clearance until the aircraft reaches a fix, point, or route where altitude information is available to the pilot. Under those conditions, a cruise clearance without a crossing restriction authorizes a pilot to determine the minimum IFR altitude as prescribed in 14 CFR Section 91.177 and descend to it at pilot discretion if it is lower than the altitude specified in the cruise clearance.*

b. Instructions to climb or descend including restrictions, as required. Specify a time restriction reference the UTC clock reading with a time check. If you are relaying through an authorized communications provider, such as ARINC, FSS, etc., advise the radio operator to issue the current time to the aircraft when the clearance is relayed.

EXAMPLE-
1. *"United Four Seventeen, climb to reach one three thousand at two two one five."*
"Time two two one one and one-quarter."
The pilot is expected to be level at 13,000 feet at 2215 UTC.
2. Through Relay-*"Speedbird Five, climb to reach flight level three-five zero at one-two-one-five, time" (Issue a time check).*

REFERENCE-
FAAO 7110.65, Word Meanings, Para 1-2-1.
FAAO 7110.65, Numbers Usage, Para 2-4-17.

PHRASEOLOGY-
CLIMB/DESCEND AND MAINTAIN (altitude).

If required,

AFTER PASSING (fix, waypoint),

or

AT (time) (time in hours, minutes, and nearest quarter minute).

CLIMB/DESCEND TO REACH (altitude)
AT (time (issue time check) or fix, waypoint),

or

AT (time). CLIMB/DESCEND AND MAINTAIN (altitude) WHEN ESTABLISHED AT LEAST (number of miles or minutes) MILES/MINUTES PAST (fix, waypoint) ON THE (NAVAID) (specified) RADIAL.
CLIMB/DESCEND TO REACH (altitude) AT (time or fix, waypoint),

or

A POINT (number of miles) MILES (direction) OF (name of DME NAVAID),

or

MAINTAIN (altitude) UNTIL (time (issue time check), fix, waypoint), THEN CLIMB/DESCEND AND MAINTAIN (altitude).

Through relay:

CLIMB TO REACH (altitude) AT (time) (issue a time check).

c. Specified altitude over a specified fix, waypoint.

PHRASEOLOGY-
CROSS (fix, waypoint) AT (altitude).
CROSS (fix, waypoint) AT OR ABOVE/BELOW (altitude).

d. A specified altitude over a specified fix for that portion of a descent clearance where descent at pilot's discretion is permissible. At any other time it is practicable, authorize climb/descent at pilot's discretion.

PHRASEOLOGY-
CLIMB/DESCEND AT PILOT'S DISCRETION.

EXAMPLE-
"United Four Seventeen, descend and maintain six thousand."

NOTE-
The pilot is expected to commence descent upon receipt of the clearance and to descend at the suggested rates specified in the AIM, para 4-4-9, Adherence to Clearance, until reaching the assigned altitude of 6,000 feet.

EXAMPLE-
"United Four Seventeen, descend at pilot's discretion, maintain six thousand."

NOTE-
The pilot is authorized to conduct descent within the context of the term "at pilot's discretion" as described in the AIM.

EXAMPLE-
"United Four Seventeen cross Lakeview V-O-R at or above flight level two zero zero, descend and maintain six thousand."

NOTE-
The pilot is authorized to conduct descent "at pilot's discretion" until reaching Lakeview VOR. The pilot must comply with the clearance provision to cross the Lakeview VOR at or above FL 200, and after passing Lakeview VOR, the pilot is expected to descend at the rates specified in the AIM until reaching the assigned altitude of 6,000 feet.

Section 7. Arrival Procedures

4-7-1. CLEARANCE INFORMATION

Clear an arriving aircraft to a clearance limit by specifying the following:

a. Name of fix or airport.

b. Route of flight including a STAR/FMSP and STAR/FMSP Transition, if appropriate. Assign a STAR and STAR Transition to any aircraft in lieu of other routes; e.g., airways or Preferential Arrival Routes when the routings are the same. Assign a FMSP or FMSP Transition to any appropriately equipped aircraft. The clearance shall include the name, the current number, and the transition, if necessary, of the STAR or FMSP to be flown.

PHRASEOLOGY-
(STAR/FMSP name and number) ARRIVAL.
(STAR/FMSP name and number) ARRIVAL, (transition name) TRANSITION.

EXAMPLE-
"Rosewood One arrival."
"Rosewood One arrival, Delta transition."

NOTE-
If a civil pilot does not wish to use a STAR or FMSP issued in an ATC clearance or any other STAR or FMSP published for that location, the pilot is expected to advise ATC.

c. Altitude instructions, as follows:

1. Assigned altitude; or

2. Instructions to vertically navigate on the STAR/FMSP or STAR/FMSP transition.

EXAMPLE-
"Bayview Three RNAV Arrival, Helen Transition, maintain Flight Level Three Three Zero."
"Descend via the Civit One Arrival."
"Cross JCT at Flight Level Two Four Zero."
"Descend via the Coast Two Arrival."
"Civit One Arrival, Descend and Maintain Flight Level Two Four Zero."

REFERENCE-
FAAO 7110.65, Altitude Information, Para 4-5-7.
AIM, Standard Terminal Arrival (STAR), Flight Management System Procedures (FMSP) For Arrivals, Para 5-4-1.

d. Issue holding instructions, EFC, and additional delay information as required.

e. Instructions regarding further communications as appropriate.

REFERENCE-
FAAO 7110.65, Radio Communications Transfer, Para 2-1-17.

4-7-2. ADVANCE DESCENT CLEARANCE

EN ROUTE

Take the following action when exercising control of aircraft landing at an airport located in an adjacent center's control area near the common boundary:

a. Coordinate with the receiving facility for a lower altitude and issue a clearance to the aircraft as appropriate.

b. Initiate this action at a distance sufficient from destination to allow for normal descent and speed reduction.

4-7-3. SINGLE FREQUENCY APPROACHES (SFA)

TERMINAL

Where SFA procedures for military single-piloted turbojet aircraft on an IFR flight plan are contained in a letter of agreement, do not require a radio frequency change after the aircraft begins approach or after initial contact during an en route descent until a landing or low approach has been completed except under the following conditions:

REFERENCE-
FAAO 7610.4, Special Military Operations, Single Frequency Approach (SFA), Para 9-3-6.
P/CG Term- Single-Piloted Aircraft.

a. During daylight hours while the aircraft is in VFR conditions.

b. On pilot request.

c. When pilot cancels IFR flight plan.

d. In an emergency situation.

e. When aircraft is cleared for visual approach.

4-7-4. RADIO FREQUENCY AND RADAR BEACON CHANGES FOR MILITARY AIRCRAFT

When military single-piloted turbojet aircraft will conduct an approach wholly or partly in IFR conditions or at night, take the following action:

NOTE-
It is known that the mental distraction and the inadvertent movement of aircraft controls resulting from the pilot's turning, reaching, or leaning to change frequencies can induce spatial disorientation (vertigo).

a. Avoid radio frequency and radar beacon changes to the maximum extent that communications capabilities and traffic will permit. However, when changes are required:

1. Give instructions early enough to allow the change before the aircraft reaches the approach fix or handoff point.

2. Keep frequency/radar beacon changes to a minimum below 2,500 feet above the surface.

3. Avoid requiring frequency/radar beacon changes during the time the aircraft is making a turn.

b. When traffic volume requires, a frequency other than the one used by aircraft making approaches may be assigned for use in transferring control to the approach control facility.

TERMINAL

c. If practicable, use a frequency common to both the GCA unit and approach control to minimize frequency changes.

d. When a GCA unit is not able to communicate on a common frequency, a change to a GCA frequency may be authorized.

e. When a nonradar approach will be made, aircraft may be instructed to change to tower frequency when:

1. The reported ceiling is at or above 1,500 feet and visibility is 5 statute miles or more.

2. The aircraft reports able to proceed by visual reference to the surface.

3. The aircraft requests and is cleared for a contact approach.

4. The aircraft is cleared for a visual approach.

f. Avoid making frequency/radar beacon changes after an aircraft begins a high altitude approach.

g. In the event of a missed approach, do not require a frequency/radar beacon change before the aircraft reaches the missed approach altitude, the MEA, or the MVA.

REFERENCE-
FAAO 7110.65, Function Code Assignments, Para 5-2-6.

4-7-5. MILITARY TURBOJET EN ROUTE DESCENT

Provide military turbojet aircraft the same arrival procedures that are provided for nonmilitary turbojet aircraft except:

NOTE-
It is the responsibility of the pilot to request a high altitude approach if he/she does not want normal arrival handling.

a. An en route descent may be used in a nonradar environment; however, radar capability should exist which will permit the aircraft to be vectored to the final approach course of a published high altitude instrument approach procedure or PAR/ASR approach. Do not use this procedure if other than normal vectoring delays are anticipated.

b. Prior to issuance of a descent clearance below the highest initial approach fix altitude established for any high altitude instrument approach procedure for the destination airport inform the aircraft:

1. Type of approach to expect.

EXAMPLE-
"Expect V-O-R approach to runway three two."

2. Radar vectors will be provided to the final approach course.

EXAMPLE-
"Expect surveillance/precision approach to runway one seven; radar vectors to final approach course."

3. Current weather whenever the ceiling is below 1,000 feet (**USAF:** 1,500 feet) or the highest circling minimum whichever is greater, or when the visibility is less than 3 miles.

EXAMPLE-
"Expect ILS/MLS approach to runway eight; radar vectors to localizer/azimuth course. Weather (reported weather)."

c. If ATIS is provided and the pilot advises he/she has received the current ATIS broadcast before the descent clearance in subpara **b** is issued, omit those items in subpara b that are contained in the broadcast.

d. To avoid requiring an aircraft to fly at low altitudes for an excessive distance, descent clearance should be issued at a point determined by adding 10 to the first two digits of the flight level.

EXAMPLE-
For FL 370, 37 + 10 = 47 miles.

NOTE-
Turbojet en route descents are based on a rate of descent of 4,000 to 6,000 feet per minute.

e. Do not terminate the en route descent of an aircraft without the consent of the pilot except as required by radar outage or an emergency situation.

REFERENCE-
FAAO 7110.65, Altitude Assignment for Military High Altitude Instrument Approaches, Para 4-8-4.

6. Monitor all approaches regardless of weather. Monitor local control frequency to receive any aircraft transmission. Issue control instructions as necessary to ensure aircraft do not enter the NTZ.

7. Separate monitor controllers, each with transmit/receive and override capability on the local control frequency, shall ensure aircraft do not penetrate the depicted NTZ. Facility directives shall define the responsibility for providing the minimum applicable longitudinal separation between aircraft on the same final approach course.

NOTE-
The aircraft is considered the center of the digitized target for that aircraft for the purposes of ensuring an aircraft does not penetrate the NTZ.

c. The following procedures shall be used by the final monitor controllers:

1. A controller shall provide position information to an aircraft that is (left/right) of the depicted localizer centerline, and in their opinion is continuing on a track that may penetrate the NTZ.

PHRASEOLOGY-
(Aircraft call sign) I SHOW YOU (left/right) OF THE FINAL APPROACH COURSE.

2. Instruct the aircraft to return immediately to the correct final approach course when aircraft are observed to overshoot the turn-on or continue on a track which will penetrate the NTZ.

PHRASEOLOGY-
YOU HAVE CROSSED THE FINAL APPROACH COURSE. TURN (left/right) IMMEDIATELY AND RETURN TO LOCALIZER/AZIMUTH COURSE.

or

TURN (left/right) AND RETURN TO THE LOCALIZER/AZIMUTH COURSE.

3. Instruct aircraft on the adjacent final approach course to alter course to avoid the deviating aircraft when an aircraft is observed penetrating or in the controller's judgement will penetrate the NTZ.

NOTE-
An instruction that may include a descent to avoid the deviating aircraft should only be used when there is no other reasonable option available to the controller. In such a case, the descent shall not put the aircraft below the MVA.

PHRASEOLOGY-
TRAFFIC ALERT, (call sign), TURN (left/right) IMMEDIATELY HEADING (DEGREES), CLIMB AND MAINTAIN (altitude).

4. Terminate radar monitoring when one of the following occurs:

(a) Visual separation is applied.

(b) The aircraft reports the approach lights or runway in sight.

(c) The aircraft has landed or, in the event of a missed approach, is one-half mile beyond the departure end of the runway.

5. Do not inform the aircraft when radar monitoring is terminated.

6. Do not apply the provisions of para 5-13-1, Monitor on PAR Equipment, for simultaneous ILS, MLS, or ILS and MLS approaches.

d. Consideration should be given to known factors that may in any way affect the safety of the instrument approach phase of flight when simultaneous ILS, MLS, or ILS and MLS approaches are being conducted to parallel runways. Factors include but are not limited to wind direction/velocity, wind-shear alerts/reports, severe weather activity, etc. Closely monitor weather activity that could impact the final approach course. Weather conditions in the vicinity of the final approach course may dictate a change of the approach in use.

REFERENCE-
FAAO 7110.65, Radar Service Termination, Para 5-1-13.
FAAO 7110.65, Final Approach Course Interception, Para 5-9-2.

Section 10. Radar Approaches- Terminal

5-10-1. APPLICATION

a. Provide radar approaches in accordance with standard or special instrument approach procedures.

b. A radar approach may be given to any aircraft upon request and may be offered to aircraft in distress regardless of weather conditions or to expedite traffic.

NOTE-
Acceptance of a radar approach by a pilot does not waive the prescribed weather minima for the airport or for the particular aircraft operator concerned. The pilot is responsible for determining if the approach and landing are authorized under the existing weather minima.

REFERENCE-
FAAO 7110.65, Final Approach Course Interception, Para 5-9-2.
FAAO 7110.65, Elevation Failure, Para 5-12-9.

5-10-2. APPROACH INFORMATION

a. Issue the following information to an aircraft that will conduct a radar approach. Current approach information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS broadcast code. All items listed below, except for subpara 3 may be omitted after the first approach if repeated approaches are made and no change has occurred. Transmissions with aircraft in this phase of the approach should occur approximately every minute.

REFERENCE-
FAAO 7110.65, Approach Information, Para 4-7-10.

1. Altimeter setting.

2. If available, ceiling and visibility if the ceiling at the airport of intended landing is reported below 1,000 feet or below the highest circling minimum, whichever is greater, or if the visibility is less than 3 miles. Advise pilots when weather information is available via the Automated Weather Observing System (AWOS)/Automated Surface Observing System (ASOS) and, if requested, issue the appropriate frequency.

NOTE-
Automated weather observing systems may be set to provide one minute updates. This one minute data may be useful to the pilot for possible weather trends. Controllers provide service based solely on official weather, i.e., hourly and special observations.

3. Issue any known changes classified as special weather observations as soon as possible. Special weather observations need not be issued after they are included in the ATIS broadcast and the pilot states the appropriate ATIS broadcast code.

4. Pertinent information on known airport conditions if they are considered necessary to the safe operation of the aircraft concerned.

5. Lost communication procedures as specified in para 5-10-4, Lost Communications.

b. Before starting final approach:

NOTE-
1. ASR approach procedures may be prescribed for specific runways, for an airport/heliport, and for helicopters only to a "point-in-space," i.e., a MAP from which a helicopter must be able to proceed to the landing area by visual reference to a prescribed surface route.

2. Occasionally, helicopter PAR approaches are available to runways where conventional PAR approaches have been established. In those instances where the two PAR approaches serve the same runway, the helicopter approach will have a steeper glide slope and a lower decision height. By the controller's designating the approach to be flown, the helicopter pilot understands which of the two approaches he/she has been vectored for and which set of minima apply.

1. Inform the aircraft of the type of approach, runway, airport, heliport, or other point, as appropriate, to which the approach will be made. Specify the airport name when the approach is to a secondary airport.

PHRASEOLOGY-
THIS WILL BE A P-A-R/SURVEILLANCE APPROACH TO:

RUNWAY (runway number),

or

(airport name) AIRPORT, RUNWAY (runway number),

or

(airport name) AIRPORT/HELIPORT.

THIS WILL BE A COPTER P-A-R APPROACH TO:

RUNWAY (runway number),

or

(airport name) AIRPORT, RUNWAY (runway number),

or

(airport name) AIRPORT/HELIPORT.

2. For surveillance approaches, specify the location of the MAP in relation to the runway/airport/heliport.

PHRASEOLOGY-
MISSED APPROACH POINT IS (distance) MILE(S) FROM RUNWAY/AIRPORT/HELIPORT,

or for a point-in-space approach,

A MISSED APPROACH POINT (distance) MILE(S) (direction from landing area) OF (airport name) AIRPORT/HELIPORT.

EXAMPLE-
Helicopter point-in-space approach:

"Army copter Zulu Two, this will be a surveillance approach to a missed approach point, three point five miles south of Creedon Heliport."

REFERENCE-
FAAO 7110.65, Elevation Failure, Para 5-12-9.

c. Inform an aircraft making an approach to an airport not served by a tower that no traffic or landing runway information is available for that airport.

PHRASEOLOGY-
NO TRAFFIC OR LANDING RUNWAY INFORMATION AVAILABLE FOR THE AIRPORT.

REFERENCE-
FAAO 7110.65, Altimeter Setting Issuance Below Lowest Usable FL, Para 2-7-2.
FAAO 7110.65, Final Approach Course Interception, Para 5-9-2.

5-10-3. NO-GYRO APPROACH

When an aircraft will make a no-gyro surveillance or a PAR approach:

a. Before issuing a vector, inform the aircraft of the type of approach.

PHRASEOLOGY-
THIS WILL BE A NO-GYRO SURVEILLANCE/P-A-R APPROACH.

b. Instruct the aircraft when to start and stop turn.

PHRASEOLOGY-
TURN LEFT/RIGHT.
STOP TURN.

c. After turn on to final approach has been made and prior to the aircraft reaching the approach gate, instruct the aircraft to make half-standard rate turns.

PHRASEOLOGY-
MAKE HALF-STANDARD RATE TURNS.

REFERENCE-
FAAO 7110.65, Final Approach Course Interception, Para 5-9-2.
FAAO 7110.65, Elevation Failure, Para 5-12-9.

5-10-4. LOST COMMUNICATIONS

When weather reports indicate that an aircraft will likely encounter IFR weather conditions during the approach, take the following action as soon as possible after establishing radar identification and radio communications (may be omitted after the first approach when successive approaches are made and the instructions remain the same):

NOTE-
Air traffic control facilities at U.S. Army and U.S. Air Force installations are not required to transmit lost communications instructions to military aircraft. All military facilities will issue specific lost communications instructions to civil aircraft when required.

a. If lost communications instructions will require the aircraft to fly on an unpublished route, issue an appropriate altitude to the pilot. If the lost communications instructions are the same for both pattern and final, the pattern/vector controller shall issue both. Advise the pilot that if radio communications are lost for a specified time interval (not more than 1 minute) on vector to final approach, 15 seconds on a surveillance final approach, or 5 seconds on a PAR final approach to:

1. Attempt contact on a secondary or a tower frequency.

2. Proceed in accordance with visual flight rules if possible.

3. Proceed with an approved nonradar approach, or execute the specific lost communications procedure for the radar approach being used.

NOTE-
The approved procedures are those published on the FAA Forms 8260 or applicable military document.

Section 14. Automation- En Route

5-14-1. CONFLICT ALERT (CA) AND MODE C INTRUDER (MCI) ALERT

a. When a CA or MCI alert is displayed, evaluate the reason for the alert without delay and take appropriate action.

NOTE-
DARC does not have CA/MCI alert capability.

REFERENCE-
FAAO 7110.65, Safety Alert, Para 2-1-6.

b. If another controller is involved in the alert, initiate coordination to ensure an effective course of action. Coordination is not required when immediate action is dictated.

c. Suppressing/Inhibiting CA/MCI alert.

1. The controller may suppress the display of a CA/MCI alert from a control position with the application of one of the following suppress/inhibit computer functions:

(a) The Conflict Suppress (CO) function may be used to suppress the CA/MCI display between specific aircraft for a specific alert.

NOTE-
See NAS-MD-678 for the EARTS conflict suppress message.

(b) The Group Suppression (SG) function shall be applied exclusively to inhibit the displaying of alerts among military aircraft engaged in special military operations where standard en route separation criteria does not apply.

NOTE-
Special military operations where the SG function would typically apply involve those activities where military aircraft routinely operate in proximities to each other that are less than standard en route separation criteria; i.e., air refueling operations, ADC practice intercept operations, etc.

2. The computer entry of a message suppressing a CA/MCI alert constitutes acknowledgment for the alert and signifies that appropriate action has or will be taken.

3. The CA/MCI alert may not be suppressed or inhibited at or for another control position without being coordinated.

5-14-2. EN ROUTE MINIMUM SAFE ALTITUDE WARNING (E-MSAW)

a. When an E-MSAW alert is displayed, immediately analyze the situation and, if necessary, take the appropriate action to resolve the alert.

NOTE-
1. *Caution should be exercised when issuing a clearance to an aircraft in reaction to an E-MSAW alert to ensure that adjacent MIA areas are not a factor.*

2. *DARC does not have E-MSAW capability.*

REFERENCE-
FAAO 7110.65, Safety Alert, Para 2-1-6.

b. The controller may suppress the display of an E-MSAW alert from his/her control position with the application of one of the following suppress/inhibit computer functions:

1. The specific alert suppression message may be used to inhibit the E-MSAW alerting display on a single flight for a specific alert.

2. The indefinite alert suppression message shall be used exclusively to inhibit the display of E-MSAW alerts on aircraft known to be flying at an altitude that will activate the alert feature of one or more MIA areas within an ARTCC.

NOTE-
1. *The indefinite alert suppression message will remain in effect for the duration of the referenced flight's active status within the ARTCC unless modified by controller action.*

2. *The indefinite alert suppression message would typically apply to military flights with clearance to fly low-level type routes that routinely require altitudes below established minimum IFR altitudes.*

c. The computer entry of a message suppressing or inhibiting E-MSAW alerts constitutes acknowledgment for the alert and indicates that appropriate action has or will be taken to resolve the situation.

5-14-3. COMPUTER ENTRY OF ASSIGNED ALTITUDE

The data block shall always reflect the current status of the aircraft unless otherwise specified in a facility directive. Whenever an aircraft is cleared to maintain an altitude different from that in the flight plan database, enter into the computer one of the following:

NOTE-
A facility directive may be published deleting the interim altitude computer entry requirements of subpara b. The directive would apply to those conditions where heavy traffic or sector complexity preclude meeting these entry requirements.

REFERENCE-
FAAO 7210.3, Waiver to Interim Altitude Requirements, Para 8-2-7.

a. The new assigned altitude if the aircraft will (climb or descend to and) maintain the new altitude, or

b. An interim altitude if the aircraft will (climb or descend to and) maintain the new altitude for a short period of time and subsequently be recleared to the altitude in the flight plan database or a new altitude or a new interim altitude.

NOTE-
1. *Use of the interim altitude function will ensure that the data block reflects the actual status of the aircraft and eliminate superfluous altitude updates.*

2. *EARTS does not have interim altitude capability.*

5-14-4. ENTRY OF REPORTED ALTITUDE

Whenever Mode C altitude information is either not available or is unreliable, enter reported altitudes into the computer as follows:

NOTE-
Altitude updates are required to assure maximum accuracy in applying slant range correction formulas.

a. When an aircraft reaches the assigned altitude.

b. When an aircraft at an assigned altitude is issued a clearance to climb or descend.

c. A minimum of each 10,000 feet during climb to or descent from FL 180 and above.

5-14-5. SELECTED ALTITUDE LIMITS

To ensure the display of Mode C targets and data blocks, take the following actions:

NOTE-
Exception to these requirements may be authorized for specific altitudes in certain ARTCC sectors if defined in appropriate facility directives and approved by the regional AT division manager.

a. NAS en route Stage A/DARC, display altitude limits in the "R" CRD when operating on NAS en route Stage A or on the PVD/MDM when operating on DARC and select the display filter keys on the PVD/MDM to include, as a minimum, the altitude stratum of the sector; plus

1. 1,200 feet above the highest and below the lowest altitude or flight level of the sector where 1,000 feet vertical separation is applicable; and

2. 2,200 feet above the highest and below the lowest flight level of the sector where 2,000 feet vertical separation is applicable.

b. EARTS. Display the EARTS altitude filter limits to include, as a minimum, the altitude stratum of the sector; and

1. 1,200 feet above the highest and below the lowest altitude or flight level of the sector where 1,000 feet vertical separation is applicable; and

2. 2,200 feet above the highest and below the lowest flight level of the sector where 2,000 feet vertical separation is applicable.

REFERENCE-
FAAO 7110.65, Alignment Accuracy Check, Para 5-1-2. ■

5-14-6. SECTOR ELIGIBILITY

The use of the OK function is allowed to override sector eligibility only when one of the following conditions is met:

a. Prior coordination is effected.

b. The flight is within the control jurisdiction of the sector.

5-14-7. COAST TRACKS

Do not use coast tracks in the application of either radar or nonradar separation criteria.

5-14-8. CONTROLLER INITIATED COAST TRACKS

a. Initiate coast tracks only in Flight Plan Aided Tracking (FLAT) mode, except "free" coast tracking may be used as a reminder that aircraft without corresponding computer-stored flight plan information are under your control.

Section 6. Basic Radar Service to VFR Aircraft- Terminal

7-6-1. APPLICATION

a. Basic radar services for VFR aircraft shall include:

1. Safety alerts.

2. Traffic advisories.

3. Limited radar vectoring when requested by the pilot.

4. Sequencing at locations where procedures have been established for this purpose and/or when covered by a LOA.

b. Apply the procedures contained in para 7-1-3, Approach Control Service for VFR Arriving Aircraft, when arriving VFR aircraft are handled by approach control and provide vectoring service in accordance with Chapter 5. Radar, Section 7. Speed Adjustment, in addition to the radar services prescribed in para 5-6-1, Application, and para 5-6-2, Methods.

REFERENCE-
FAAO 7110.65, Surface Areas, Para 2-1-16.
FAAO 7110.65, Application, Para 7-6-1.
FAAO 7210.3, Chapter 11, Section 1. Terminal VFR Radar Services.
AIM, Terminal Radar Services for VFR Aircraft, Para 4-1-17.

7-6-2. SERVICE AVAILABILITY

a. Inform aircraft on initial contact whenever this service cannot be provided because of radar outage and apply para 7-1-3, Approach Control Service for VFR Arriving Aircraft.

b. Provide the service, to the extent possible using an available frequency, if an aircraft desires the service but cannot communicate on the appropriate frequencies. Aircraft which do not desire radar service may be fitted into the landing sequence by the tower. Coordination of these aircraft shall be accomplished with the approach control unless a facility directive/LOA prescribes otherwise. Nonparticipating aircraft shall, to the extent possible, be given the same landing sequence they would have received had they been sequenced by radar vectors.

c. Radar sequencing to the primary airport, when local procedures have been developed, shall be provided unless the pilot states that the service is not requested. Arriving aircraft are assumed to want radar service unless the pilot states "Negative radar service," or makes a similar comment.

7-6-3. INITIAL CONTACT

An aircraft sighted by the local controller at the time of first radio contact may be positioned in the landing sequence after coordination with approach control.

7-6-4. IDENTIFICATION

Identify the aircraft before taking action to position it in the approach sequence.

7-6-5. HOLDING

Hold VFR aircraft over the initial reporting fix or a fix near the airport when holding is required to establish an approach sequence.

REFERENCE-
FAAO 7110.65, Visual Holding of VFR Aircraft, Para 7-1-4.

7-6-6. APPROACH SEQUENCE

Do not assign landing sequence numbers, when establishing aircraft in the approach sequence, unless this responsibility has been delegated in a LOA or facility directive.

NOTE-
The landing sequence is ordinarily established by the tower.

7-6-7. SEQUENCING

a. Establish radar contact before instructing a VFR aircraft to enter the traffic pattern at a specified point or vectoring the aircraft to a position in the approach sequence. Inform the pilot of the aircraft to follow when the integrity of the approach sequence is dependent on following a preceding aircraft. Ensure visual contact is established with the aircraft to follow and provide instruction to follow that aircraft.

PHRASEOLOGY-
FOLLOW (description) (position, if necessary).

b. Direct a VFR aircraft to a point near the airport to hold when a position is not available in the approach sequence for the runway in use. The aircraft may be vectored to another runway after coordination with the tower.

c. Apply the following procedures to a VFR aircraft being radar sequenced:

1. The provisions of para 5-5-4, Minima, subparas d and e.

2. When parallel runways are less than 2,500 feet apart, do not permit a heavy jet/B757 to overtake any aircraft nor a large aircraft to overtake a small aircraft established on final within the facility's area of responsibility.

7-6-8. CONTROL TRANSFER

a. Inform the tower of the aircraft's position and then instruct the pilot to contact the tower.

b. The aircraft may be instructed to contact the tower prior to the tower being advised of the aircraft's position provided:

1. The tower advises the aircraft is in sight, and

2. Space is available in the landing sequence.

c. Instruct the pilot to contact the tower at the appropriate point when the approach control ARTS/STARS track data is being displayed on the tower's BRITE/DBRITE/TDW display, the aircraft is tagged by ARTS/STARS, and a facility directive specifies change of communications and control jurisdiction points.

NOTE-
The point at which an aircraft is instructed to contact the tower is determined by prior coordination between the tower and approach control and will vary, depending on the runway in use, weather, etc. The transfer of communications ordinarily occurs at least 5 miles from the runway. The point for the transfer of communications should be a sufficient distance from the airport to permit the tower to properly sequence the aircraft, but not at a distance that could derogate the provision of radar traffic information service.

7-6-9. ABANDONED APPROACH

Instruct the aircraft to change to approach control for sequencing when an aircraft, under tower control, abandons the approach and coordination with approach control reveals no immediate space in the approach sequence.

7-6-10. VFR DEPARTURE INFORMATION

Inform departing VFR aircraft who request radar traffic advisories when to contact departure control and the frequency to use. Provide traffic advisories in accordance with para 2-1-21, Traffic Advisories, after the departure is radar identified.

NOTE-
Departing aircraft desiring traffic information are expected to request the service and to state their proposed direction of flight upon initial contact with ground control.

7-6-11. TERMINATION OF SERVICE

Basic radar services should be provided to the extent possible, workload permitting. Terminate radar service to aircraft landing at airports other than those where sequencing service is provided at a sufficient distance from the airport to permit the pilot to change to the appropriate frequency for traffic and airport information.

PHRASEOLOGY-
RADAR SERVICE TERMINATED, SQUAWK ONE TWO ZERO ZERO,

or

SQUAWK VFR,

then

CHANGE TO ADVISORY FREQUENCY APPROVED,

or

CONTACT (frequency identification),

or

FREQUENCY CHANGE APPROVED.

7-6-12. SERVICE PROVIDED WHEN TOWER IS INOPERATIVE

a. Provide the following services during hours when the tower is not in operation:

1. Wind direction and velocity.

NOTE-
Issue information provided from the FSS or WSO. Otherwise, inform the pilot that wind information is not available.

2. Traffic information.

3. Inform aircraft when radar service is terminated.

REFERENCE-
FAAO 7110.65, Radar Service Termination, Para 5-1-13.

b. Do not assign landing sequence.

Section 7. Terminal Radar Service Area (TRSA)- Terminal

7-7-1. APPLICATION

Apply TRSA procedures within the designated TRSA in addition to the basic services described in Chapter 7, Visual, Section 6, Basic Radar Service to VFR Aircraft- Terminal.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-7-2. ISSUANCE OF EFC

Inform the pilot when to expect further clearance when VFR aircraft are held either inside or outside the TRSA.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-7-3. SEPARATION

Separate VFR aircraft from VFR/IFR aircraft by any one of the following:

a. Visual separation, as specified in para 7-2-1, Visual Separation, para 7-4-2, Vectors for Visual Approach, and para 7-6-7, Sequencing.

NOTE-
Issue wake turbulence cautionary advisories in accordance with para 2-1-20, Wake Turbulence Cautionary Advisories.

b. 500 feet vertical separation.

c. Target resolution when using broadband radar systems. The application of target resolutions at locations not using broadband radar will be individually approved by the Program Director for Air Traffic Planning and Procedures, ATP-1.

NOTE-
Apply the provisions of para 5-5-4, Minima, subparas d and e when wake turbulence separation is required.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-7-4. HELICOPTER TRAFFIC

Helicopters need not be separated from other helicopters. Traffic information shall be exchanged, as necessary.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-7-5. ALTITUDE ASSIGNMENTS

a. Altitude information contained in a clearance, instruction, or advisory to VFR aircraft shall meet MVA, MSA, or minimum IFR altitude criteria.

REFERENCE-
FAAO 7110.65, Flight Direction, Para 4-5-2.
FAAO 7110.65, Exceptions, Para 4-5-3.
FAAO 7110.65, Minimum En Route Altitudes, Para 4-5-6.

b. If required, issue altitude assignments, consistent with the provisions of 14 CFR Section 91.119.

NOTE-
The MSA's are:
(1) Over congested areas, an altitude at least 1,000 feet above the highest obstacle; and

(2) Over other than congested areas, an altitude at least 500 feet above the surface.

c. When necessary to assign an altitude for separation purposes to VFR aircraft contrary to 14 CFR Section 91.159, advise the aircraft to resume altitudes appropriate for the direction of flight when the altitude assignment is no longer needed for separation or when leaving the TRSA.

PHRASEOLOGY-
RESUME APPROPRIATE VFR ALTITUDES.

REFERENCE-
FAAO 7110.65, Practice Approaches, Para 4-8-11.
FAAO 7110.65, Application, Para 5-6-1.
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-7-6. APPROACH INTERVAL

The tower shall specify the approach interval.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-7-7. TRSA DEPARTURE INFORMATION

a. At controlled airports within the TRSA, inform a departing aircraft proposing to operate within the TRSA when to contact departure control and the frequency to use. If the aircraft is properly equipped, ground control or clearance delivery shall issue the appropriate beacon code.

NOTE-
Departing aircraft are assumed to want TRSA service unless the pilot states, "negative TRSA service," or makes a similar comment. Pilots are expected to inform the controller of intended destination and/or route of flight and altitude.

b. Provide separation until the aircraft leaves the TRSA.

c. Inform VFR participating aircraft when leaving the TRSA.

PHRASEOLOGY-
LEAVING THE (name) TRSA,

and as appropriate,

RESUME OWN NAVIGATION, REMAIN THIS FREQUENCY FOR TRAFFIC ADVISORIES, RADAR SERVICE TERMINATED, SQUAWK ONE TWO ZERO ZERO.

d. Aircraft departing satellite controlled airports that will penetrate the TRSA should be provided the same service as those aircraft departing the primary airport. Procedures for handling this situation shall be covered in a letter of agreement or facility directives, as appropriate.

e. Procedures for handling aircraft departing uncontrolled satellite airports must be advertised in a facility bulletin and service provided accordingly.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

Section 8. Class C Service- Terminal

7-8-1. APPLICATION

Apply Class C service procedures within the designated Class C airspace and the associated outer area. Class C services are designed to keep ATC informed of all aircraft within Class C airspace, not to exclude operations. Two-way radio communications and operational transponder are normally required for operations within Class C airspace, but operations without radio communications or transponder can be conducted by LOA, facility directive, or special arrangement with Class C airspace controlling facility.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.
14 CFR Section 91.215, ATC Transponder and Altitude Reporting Equipment and Use.

7-8-2. CLASS C SERVICES

a. Class C services include the following:

1. Sequencing of all aircraft to the primary airport.

2. Standard IFR services to IFR aircraft.

3. Separation, traffic advisories, and safety alerts between IFR and VFR aircraft.

4. Mandatory traffic advisories and safety alerts between VFR aircraft.

b. Provide Class C services to all aircraft operating within Class C airspace.

c. Provide Class C services to all participating aircraft in the outer area.

d. Aircraft should not normally be held. However, if holding is necessary, inform the pilot of the expected length of delay.

e. When a radar outage occurs, advise aircraft that Class C services are not available and, if appropriate, when to contact the tower.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-8-3. SEPARATION

Separate VFR aircraft from IFR aircraft by any one of the following:

a. Visual separation as specified in para 7-2-1, Visual Separation, para 7-4-2, Vectors for Visual Approach, and para 7-6-7, Sequencing.

NOTE-
Issue wake turbulence cautionary advisories in accordance with para 2-1-20, Wake Turbulence Cautionary Advisories.

b. 500 feet vertical separation;

c. Target resolution when using broadband radar systems. The application of target resolution at locations not using broadband radar will be individually approved by the Program Director for Air Traffic Planning and Procedures, ATP-1.

NOTE-
Apply the provisions of para 5-5-4, Minima, when wake turbulence separation is required.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-8-4. ESTABLISHING TWO-WAY COMMUNICATIONS

Class C service requires pilots to establish two-way radio communications before entering Class C airspace. If the controller responds to a radio call with, "(a/c call sign) standby," radio communications have been established and the pilot can enter Class C airspace. If workload or traffic conditions prevent immediate provision of Class C services, inform the pilot to remain outside Class C airspace until conditions permit the services to be provided.

PHRASEOLOGY-
(A/c call sign) REMAIN OUTSIDE CHARLIE AIRSPACE AND STANDBY.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-8-5. ALTITUDE ASSIGNMENTS

a. When necessary to assign altitudes to VFR aircraft, assign altitudes that meet the MVA, MSA, or minimum IFR altitude criteria.

b. Aircraft assigned altitudes which are contrary to 14 CFR Section 91.159 shall be advised to resume altitudes appropriate for the direction of flight when the altitude is no longer needed for separation, when leaving the outer area, or when terminating Class C service.

PHRASEOLOGY-
RESUME APPROPRIATE VFR ALTITUDES.

REFERENCE-
FAAO 7110.65, Visual Separation, Para 7-2-1.

7-8-6. EXCEPTIONS

a. VFR helicopters need not be separated from IFR helicopters. Traffic information and safety alerts shall be issued as appropriate.

b. Hot air balloons need not be separated from IFR aircraft. Traffic information and safety alerts shall be issued as appropriate.

7-8-7. ADJACENT AIRPORT OPERATIONS

a. Aircraft that will penetrate Class C airspace after departing controlled airports within or adjacent to Class C airspace shall be provided the same services as those aircraft departing the primary airport. Procedures for handling this situation shall be covered in a LOA or a facility directive, as appropriate.

b. Aircraft departing uncontrolled airports within Class C airspace shall be handled using procedures advertised in a Letter to Airmen.

7-8-8. TERMINATION OF SERVICE

Unless aircraft are landing at secondary airports or have requested termination of service while in the outer area, provide services until the aircraft departs the associated outer area. Terminate Class C service to aircraft landing at other than the primary airport at a sufficient distance from the airport to allow the pilot to change to the appropriate frequency for traffic and airport information.

PHRASEOLOGY-
CHANGE TO ADVISORY FREQUENCY APPROVED,

or

CONTACT (facility identification).

Section 9. Class B Service Area- Terminal

7-9-1. APPLICATION

Apply Class B services and procedures within the designated Class B airspace.

a. No person may operate an aircraft within Class B airspace unless:

1. The aircraft has an operable two-way radio capable of communications with ATC on appropriate frequencies for that Class B airspace.

2. The aircraft is equipped with the applicable operating transponder and automatic altitude reporting equipment specified in para (a) of 14 CFR Section 91.215, except as provided in para (d) of that section.

7-9-2. VFR AIRCRAFT IN CLASS B AIRSPACE

a. VFR aircraft must obtain an ATC clearance to operate in Class B airspace.

REFERENCE-
FAAO 7110.65, Operational Requests, Para 2-1-18.
FAAO 7110.65, Airspace Classes, Para 2-4-22.

PHRASEOLOGY-
CLEARED THROUGH/TO ENTER/OUT OF BRAVO AIRSPACE,

and as appropriate,

VIA (route). MAINTAIN (altitude) WHILE IN BRAVO AIRSPACE.

or

CLEARED AS REQUESTED.

(Additional instructions, as necessary.)

REMAIN OUTSIDE BRAVO AIRSPACE. (When necessary, reason and/or additional instructions.)

NOTE-
1. *Assignment of radar headings, routes, or altitudes is based on the provision that a pilot operating in accordance with VFR is expected to advise ATC if compliance will cause violation of any part of the CFR.*

2. *Separation and sequencing for VFR aircraft is dependent upon radar. Efforts should be made to segregate VFR traffic from IFR traffic flows when a radar outage occurs.*

b. Approve/deny requests from VFR aircraft to operate in Class B airspace based on workload, operational limitations and traffic conditions.

c. Inform the pilot when to expect further clearance when VFR aircraft are held either inside or outside Class B airspace.

d. Inform VFR aircraft when leaving Class B airspace.

PHRASEOLOGY-
LEAVING (name) BRAVO AIRSPACE,

and as appropriate,

RESUME OWN NAVIGATION, REMAIN THIS FREQUENCY FOR TRAFFIC ADVISORIES, RADAR SERVICE TERMINATED, SQUAWK ONE TWO ZERO ZERO.

7-9-3. METHODS

a. To the extent practical, clear large turbine engine-powered airplanes to/from the primary airport using altitudes and routes that avoid VFR corridors and airspace below the Class B airspace floor where VFR aircraft are operating.

NOTE-
Pilots operating in accordance with VFR are expected to advise ATC if compliance with assigned altitudes, headings, or routes will cause violation of any part of the CFR.

b. Vector aircraft to remain in Class B airspace after entry. Inform the aircraft when leaving and reentering Class B airspace if it becomes necessary to extend the flight path outside Class B airspace for spacing.

NOTE-
14 CFR Section 91.131 states that "Unless otherwise authorized by ATC, each person operating a large turbine engine-powered airplane to or from a primary airport for which a Class B airspace area is designated must operate at or above the designated floors of the Class B airspace area while within the lateral limits of that area." Such authorization should be the exception rather than the rule.

REFERENCE-
FAAO 7110.65, Deviation Advisories, Para 5-1-10.

c. Aircraft departing controlled airports within Class B airspace will be provided the same services as those aircraft departing the primary airport.

REFERENCE-
FAAO 7110.65, Operational Requests, Para 2-1-18.

7-9-4. SEPARATION

a. Standard IFR services to IFR aircraft.

b. VFR aircraft shall be separated from VFR/IFR aircraft that weigh more than 19,000 pounds and turbojets by no less than:

1. 1 $^{1}/_{2}$ miles separation, or

2. 500 feet vertical separation, or

NOTE-
Apply the provisions of para 5-5-4, Minima, when wake turbulence separation is required.

3. Visual separation, as specified in para 7-2-1, Visual Separation, para 7-4-2, Vectors for Visual Approach, and para 7-6-7, Sequencing.

NOTE-
Issue wake turbulence cautionary advisories in accordance with para 2-1-20, Wake Turbulence Cautionary Advisories.

c. VFR aircraft shall be separated from all VFR/IFR aircraft which weigh 19,000 pounds or less by a minimum of:

1. Target resolution, or

2. 500 feet vertical separation, or

NOTE-
1. Apply the provisions of para 5-5-4, Minima, when wake turbulence separation is required.

2. Aircraft weighing 19,000 pounds or less include all aircraft in SRS Categories I and II plus G73, STAR, S601, BE30, SW3, B190 and C212.

3. Visual separation, as specified in para 7-2-1, Visual Separation, para 7-4-2, Vectors for Visual Approach, and para 7-6-7, Sequencing.

NOTE-
Issue wake turbulence cautionary advisories in accordance with para 2-1-20, Wake Turbulence Cautionary Advisories.

REFERENCE-
P/CG Term- Lateral Separation.
P/CG Term- Radar Separation.
P/CG Term- Target Resolution.
P/CG Term- Visual Separation.

7-9-5. TRAFFIC ADVISORIES

a. Provide mandatory traffic advisories and safety alerts, between all aircraft.

b. Apply merging target procedures in accordance with para 5-1-8, Merging Target Procedures.

7-9-6. HELICOPTER TRAFFIC

VFR helicopters need not be separated from VFR or IFR helicopters. Traffic advisories and safety alerts shall be issued as appropriate.

7-9-7. ALTITUDE ASSIGNMENTS

a. Altitude information contained in a clearance, instruction, or advisory to VFR aircraft shall meet MVA, MSA, or minimum IFR altitude criteria.

b. Issue altitude assignments, if required, consistent with the provisions of 14 CFR Section 91.119.

NOTE-
The MSA's are:
1. Over congested areas, an altitude at least 1,000 feet above the highest obstacle,
2. Over other than congested areas, an altitude at least 500 feet above the surface.

REFERENCE-
FAAO 7110.65, Flight Direction, Para 4-5-2.
FAAO 7110.65, Exceptions, Para 4-5-3.
FAAO 7110.65, Minimum En Route Altitudes, Para 4-5-6.

c. Aircraft assigned altitudes which are contrary to 14 CFR Section 91.159 shall be advised to resume altitudes appropriate for the direction of flight when the altitude assignment is no longer required or when leaving Class B airspace.

PHRASEOLOGY-
RESUME APPROPRIATE VFR ALTITUDES.

7-9-8. APPROACH INTERVAL

The tower shall specify the approach interval.

Section 9. Unidentified Flying Object (UFO) Reports

9-9-1. GENERAL

a. Persons wanting to report UFO activity should contact the National Institute for Discovery Sciences (NIDS) via the following methods:

(702) 798-1700 Voice
(702) 798-1970 Facsimile
http://www.nidsci.org

b. NIDS will ask a series of questions (verbal and/or via questionnaire) concerning the event.

NOTE-
NIDS is the single point of contact recognized by the FAA in regard to UFO information. They will maintain a national database on anomalous phenomena and periodically share that information with the FAA.

c. If concern is expressed that life or property might be endangered, refer the individual to the local police department.

Chapter 11. Traffic Management Procedures

Section 1. General

11-1-1. DUTY RESPONSIBILITY

a. The traffic management system mission is to balance air traffic demand with system capacity to ensure the maximum efficient utilization of the NAS.

b. It is recognized that the ATCS is integral in the execution of the traffic management mission.

NOTE-
Complete details of traffic management initiatives and programs can be found in FAAO 7210.3, Facility Operation and Administration.

11-1-2. DUTIES AND RESPONSIBILITIES

a. Supervisory Traffic Management Coordinator-in-Charge (STMCIC) shall:

1. Ensure that an operational briefing is conducted at least once during the day and evening shifts. Participants shall include, at a minimum, the STMCIC, Operations Supervisors (OS), Traffic Management Coordinator(s) (TMC), and other interested personnel as designated by facility management. Discussions at the meeting should include meteorological conditions (present and forecasted), staffing, equipment status, runways in use, AAR and traffic management initiatives (present and anticipated).

2. Assume responsibility for TMC duties when not staffed.

3. Ensure that traffic management initiatives are carried out by Supervisory Traffic Management Coordinator-in-Charge (STMCIC).

4. Where authorized, perform URET CCLD data entries to keep the activation status of designated URET CCLD Airspace Configuration Elements current.

5. Perform assigned actions in the event of a URET CCLD outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.

6. Ensure changes to restrictions based on the Restrictions Inventory and Evaluation are implemented in a timely manner.

b. OS shall:

1. Keep the TMU and affected sectors apprised of situations or circumstances that may cause congestion or delays.

2. Coordinate with the TMU and ATCS's to develop appropriate traffic management initiatives for sectors and airports in their area of responsibility.

3. Continuously review traffic management initiatives affecting their area of responsibility and coordinate with TMU for extensions, revisions, or cancellations.

4. Ensure that traffic management initiatives are carried out by ATCS's.

5. Where authorized, perform URET CCLD data entries to keep the activation status of designated URET CCLD Airspace Configuration Elements current.

6. Perform assigned actions in the event of a URET CCLD outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.

7. Ensure changes to restrictions based on the Restrictions Inventory and Evaluation are implemented in a timely manner.

c. ATCS's shall:

1. Ensure that traffic management initiatives and programs are enforced within their area of responsibility. Traffic management initiatives and programs do not have priority over maintaining:

(a) Separation of aircraft.

(b) Procedural integrity of the sector.

2. Keep the OS and TMU apprised of situations or circumstances that may cause congestion or delays.

3. Continuously review traffic management initiatives affecting their area of responsibility and coordinate with OS and TMU for extensions, revisions, or cancellations.

4. Where authorized, perform URET CCLD data entries to keep the activation status of designated URET CCLD Airspace Configuration Elements current.

5. Perform assigned actions in the event of a URET CCLD outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.

Chapter 13. Decision Support Tools

Section 1. User Request Evaluation Tool Core Capability Limited Deployment (URET CCLD) - En Route

13-1-1. DESCRIPTION

a. URET CCLD, a decision support technology and component of the Free Flight Program, is utilized in the en route environment and is located at the Radar Associate (RA) position at an operational sector. The purpose of the tool is the prediction of conflicts between aircraft and between aircraft and special use or designated airspace, and it also provides trial planning and enhanced flight data management capabilities.

b. URET CCLD is designed to enhance the efficiency of the Sector Team by providing decision support in the prediction and resolution of potential conflicts, and, as a result, allowing controllers more latitude in other tasks, such as responding to user requests. Further, the use of the tool could provide increased system safety, decreased system delays, and increased system flexibility, predictability, productivity, and user access.

c. URET CCLD predicts conflicts up to 20 minutes in advance using flight plan, forecast winds, aircraft performance characteristics, and track data to derive expected aircraft trajectories. URET CCLD supports early identification and resolution of predicted conflicts and the evaluation of user requests, and it is to be used by the sector team in performing their strategic planning responsibilities.

13-1-2. CONFLICT DETECTION AND RESOLUTION

a. Actively scan URET CCLD information for predicted alerts.

b. When a URET CCLD alert is displayed, evaluate the alert and take appropriate action as early as practical, in accordance with duty priorities.

c. Prioritize the evaluation and resolution of URET CCLD alerts to ensure the safe, expeditious, and efficient flow of air traffic.

NOTE-
URET CCLD alerts are based on radar separation standards. Caution should be used when situations include nonstandard formations.

d. When a URET CCLD alert is displayed and when sector priorities permit, give consideration to the following in determining a solution:

1. Solutions that involve direct routing, altitude changes, removal of a flight direction constraint (i.e. inappropriate altitude for direction of flight), and/or removal of a static restriction for one or more pertinent aircraft.

2. Impact on surrounding sector traffic and complexity levels, flight efficiencies, and user preferences.

13-1-3. TRIAL PLANNING

a. When URET CCLD is operational at the sector and when sector priorities permit, use the trial plan capability to evaluate:

1. Solutions to predicted conflicts.

2. The feasibility of granting user requests.

3. The feasibility of removing a flight direction constraint (i.e., inappropriate altitude for direction of flight) for an aircraft.

4. The feasibility of removing a static restriction for an aircraft.

13-1-4. URET CCLD-BASED CLEARANCES

a. When the results of a trial plan based upon a user request indicate the absence of alerts, every effort should be made to grant the user request, unless the change is likely to adversely effect operations at another sector.

b. Unless otherwise required by facility directive, when URET CCLD is operational and a flight will exit the sector at the wrong altitude for direction of flight, the transferring sector team is not required to request approval from the receiving sector team, provided:

1. A "show-all" function for the subject aircraft indicates the aircraft is conflict free.

2. URET CCLD is operational at the receiving sector.

13-1-5. THE AIRCRAFT LIST (ACL) AND FLIGHT DATA MANAGEMENT

a. The ACL shall be used as the sector team's primary source of flight data.

b. When URET CCLD is operational, sector teams shall post flight progress strips for any nonradar flights.

c. When URET CCLD is operational, sector teams shall post any flight progress strip(s) that are deemed necessary for safe or efficient operations. The sector team shall comply with all applicable facility directives to maintain posted flight progress strips.

NOTE-
Cases in which an operational advantage may be realized include, but are not limited to aircraft that cannot be expected to remain in radar contact, aircraft in hold, and emergencies.

13-1-6. RECORDING OF CONTROL DATA

a. All control information not otherwise recorded via automation recordings or voice recordings shall be manually recorded using approved methods.

b. Control information may be entered in the free text area and shall be used for reference purposes only.

c. Data required to be entered into the free text area shall be designated in a facility directive.

13-1-7. ACKNOWLEDGEMENT OF AUTOMATED NOTIFICATION

a. Remove Inappropriate Altitude for Direction of Flight coding only after any required coordination has been completed, or it has been determined that no coordination is required.

b. Remove Unsuccessful Transmission Message (UTM) coding only after appropriate coordination has been completed.

c. Remove Route Action Notification only after the appropriate clearance has been issued to the pilot or otherwise coordinated.

d. Remove Expect Departure Clearance Time (EDCT) coding only after the EDCT has been issued to the pilot.

e. Remove ATC Preferred Route (APR) coding only after the route has been checked and any required action has been completed.

NOTE-
If coding is prematurely removed and the control of the aircraft is transferred prior to completing the appropriate action, the next sector will not receive the necessary APR notification.

13-1-8. CURRENCY OF TRAJECTORY INFORMATION

a. The sector team shall perform automation entries in a timely manner.

NOTE-
1. *Conflict probe accuracy requires timely updates of data used to model each flight's trajectory. If this data is not current, the aircraft entries and notification of probe results for surrounding sectors and facilities, as well as the subject sector, may be misleading.*

2. *Data used to model an individual aircraft's trajectory includes route of flight, assigned and interim altitudes, application/removal of an adapted restriction for that flight, and aircraft type.*

b. An exception to the requirement to enter or update interim altitudes may be authorized for certain ARTCC sectors if explicitly defined in an appropriate facility directive.

NOTE-
URET CCLD accuracy in assigning alert notification is dependent upon entry/update of a flight's interim altitude.

13-1-9. DELAY REPORTING

a. Adhere to all applicable delay reporting directives while URET CCLD is operational.

b. Delay information shall be recorded either on available flight progress strips or on facility approved forms.

13-1-10. OVERDUE AIRCRAFT

Upon receipt of the URET CCLD overdue aircraft notification take appropriate actions set forth in Chapter 10, Section 3, Overdue Aircraft.

NOTE-
URET CCLD overdue aircraft notification is based on radar track data. Updating an aircraft's route of fight will remove the overdue aircraft notification.

13-1-11. USE OF GRAPHICS PLAN DISPLAY (GPD)

a. Graphic depictions of flight trajectories may be used only to aid in situational awareness and strategic planning.

b. Do not use trajectory-based positions as a substitute for radar track position.

c. Do not use trajectory-based altitude in lieu of Mode C for altitude confirmation.

d. Do not use the GPD for radar identification, position information, transfer of radar identification, radar separation, correlation, or pointouts.

13-1-12. FORECAST WINDS

In the event that current forecast wind data is not available, continue use of URET CCLD with appropriate recognition that alert data may be affected.

13-1-13. INTERFACILITY CONNECTIVITY

In the event of a loss of connectivity to a neighboring URET CCLD system, continue use of URET CCLD with appropriate recognition that alert data may be affected.

13-1-14. HOST OUTAGES

In the event of a Host outage, URET CCLD data may be used to support situational awareness while the facility transitions to Enhanced Direct Access Radar Channel (EDARC) or nonradar procedures.

NOTE-
Without Host input, URET CCLD data cannot be updated and becomes stale.

PILOT/CONTROLLER GLOSSARY

PURPOSE

a. This Glossary was compiled to promote a common understanding of the terms used in the Air Traffic Control system. It includes those terms which are intended for pilot/controller communications. Those terms most frequently used in pilot/controller communications are printed in ***bold italics***. The definitions are primarily defined in an operational sense applicable to both users and operators of the National Airspace System. Use of the Glossary will preclude any misunderstandings concerning the system's design, function, and purpose.

b. Because of the international nature of flying, terms used in the Lexicon, published by the International Civil Aviation Organization (ICAO), are included when they differ from FAA definitions. These terms are followed by "[ICAO]." For the reader's convenience, there are also cross references to related terms in other parts of the Glossary and to other documents, such as the Federal Aviation Regulations (FAR's) and the Aeronautical Information Manual (AIM).

c. This Glossary will be revised, as necessary, to maintain a common understanding of the system.

EXPLANATION OF CHANGES

a. Terms Added:

AIRCRAFT CONFLICT (ATP-110)
AIRCRAFT LIST (ACL) (ATP-110)
AIRSPACE CONFLICT (ATP-110)
ALERT (ATP-110)
ARRIVAL STREAM FILTER (ASF) (ATP-110)
AUTOMATED PROBLEM DETECTION (APD) (ATP-110)
AUTOMATED PROBLEM DETECTION BOUNDARY (APB) (ATP-110)
AUTOMATED PROBLEM DETECTION INHIBITED AREA (APDIA) (ATP-110)
AUTOMATED UNICOM (ATP-120)
ATC PREFERRED ROUTE NOTIFICATION (ATP-110)
ATC PREFERRED ROUTES (ATP-110)
CONFORMANCE (ATP-110)
CONFORMANCE REGION (ATP-110)
CONTINUE (ATP-120)
CURRENT PLAN (ATP-110)
GRAPHIC PLAN DISPLAY (GPD) (ATP-110)
PLANS DISPLAY (ATP-110)
RECONFORMANCE (ATP-110)
ROUTE ACTION NOTIFICATION (ATP-110)
SPECIAL ACTIVITY AIRSPACE (SAA) (ATP-110)
STRATEGIC PLANNING (ATP-110)
TRAJECTORY (ATP-110)
TRAJECTORY MODELING (ATP-110)
TRIAL PLAN (ATP-110)

USER REQUEST EVALUATION TOOL (URET) (ATP-110)
USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT (URET CCLD) (ATP-110)
WIND GRID DISPLAY (ATP-110)

A

AAI-
(See ARRIVAL AIRCRAFT INTERVAL.)

AAR-
(See AIRPORT ARRIVAL RATE.)

ABBREVIATED IFR FLIGHT PLANS- An authorization by ATC requiring pilots to submit only that information needed for the purpose of ATC. It includes only a small portion of the usual IFR flight plan information. In certain instances, this may be only aircraft identification, location, and pilot request. Other information may be requested if needed by ATC for separation/control purposes. It is frequently used by aircraft which are airborne and desire an instrument approach or by aircraft which are on the ground and desire a climb to VFR-on-top.
(See VFR-ON-TOP.)
(Refer to AIM.)

ABEAM- An aircraft is "abeam" a fix, point, or object when that fix, point, or object is approximately 90 degrees to the right or left of the aircraft track. Abeam indicates a general position rather than a precise point.

ABORT- To terminate a preplanned aircraft maneuver; e.g., an aborted takeoff.

ACC [ICAO]-
(See ICAO term AREA CONTROL CENTER.)

ACCELERATE-STOP DISTANCE AVAILABLE- The runway plus stopway length declared available and suitable for the acceleration and deceleration of an airplane aborting a takeoff.

ACCELERATE-STOP DISTANCE AVAILABLE [ICAO]- The length of the take-off run available plus the length of the stopway if provided.

ACDO-
(See AIR CARRIER DISTRICT OFFICE.)

ACKNOWLEDGE- Let me know that you have received my message.
(See ICAO term ACKNOWLEDGE.)

ACKNOWLEDGE [ICAO]- Let me know that you have received and understood this message.

ACL-
(See AIRCRAFT LIST.)

ACLS-
(See AUTOMATIC CARRIER LANDING SYSTEM.)

ACLT-
(See ACTUAL CALCULATED LANDING TIME.)

ACROBATIC FLIGHT- An intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration not necessary for normal flight.
(Refer to Part 91.)
(See ICAO term ACROBATIC FLIGHT.)

ACROBATIC FLIGHT [ICAO]- Maneuvers intentionally performed by an aircraft involving an abrupt change in its attitude, an abnormal attitude, or an abnormal variation in speed.

ACTIVE RUNWAY-
(See RUNWAY IN USE/ACTIVE RUNWAY/DUTY RUNWAY.)

ACTUAL CALCULATED LANDING TIME- ACLT is a flight's frozen calculated landing time. An actual time determined at freeze calculated landing time (FCLT) or meter list display interval (MLDI) for the adapted vertex for each arrival aircraft based upon runway configuration, airport acceptance rate, airport arrival delay period, and other metered arrival aircraft. This time is either the vertex time of arrival (VTA) of the aircraft or the tentative calculated landing time (TCLT)/ACLT of the previous aircraft plus the arrival aircraft interval (AAI), whichever is later. This time will not be updated in response to the aircraft's progress.

ACTUAL NAVIGATION PERFORMANCE (ANP)-
(See REQUIRED NAVIGATION PERFORMANCE.)

ADDITIONAL SERVICES- Advisory information provided by ATC which includes but is not limited to the following:

a. Traffic advisories.

b. Vectors, when requested by the pilot, to assist aircraft receiving traffic advisories to avoid observed traffic.

c. Altitude deviation information of 300 feet or more from an assigned altitude as observed on a verified (reading correctly) automatic altitude readout (Mode C.)

d. Advisories that traffic is no longer a factor.

e. Weather and chaff information.

f. Weather assistance.

g. Bird activity information.

h. Holding pattern surveillance. Additional services are provided to the extent possible contingent only upon the controller's capability to fit them into the performance of higher priority duties and on the basis of limitations of the radar, volume of traffic, frequency congestion, and controller workload. The controller has complete discretion for determining if he/she is able to provide or continue to provide a service in a particular case. The controller's reason not to provide or continue to provide a service in a particular case is not subject to question by the pilot and need not be made known to him/her.

(See TRAFFIC ADVISORIES.)

(Refer to AIM.)

ADF-

(See AUTOMATIC DIRECTION FINDER.)

ADIZ-

(See AIR DEFENSE IDENTIFICATION ZONE.)

ADLY-

(See ARRIVAL DELAY.)

ADMINISTRATOR- The Federal Aviation Administrator or any person to whom he/she has delegated his/her authority in the matter concerned.

ADR-

(See AIRPORT DEPARTURE RATE.)

ADVISE INTENTIONS- Tell me what you plan to do.

ADVISORY- Advice and information provided to assist pilots in the safe conduct of flight and aircraft movement.

(See ADVISORY SERVICE.)

ADVISORY FREQUENCY- The appropriate frequency to be used for Airport Advisory Service.

(See LOCAL AIRPORT ADVISORY.)

(See UNICOM.)

(Refer to ADVISORY CIRCULAR NO. 90-42.)

(Refer to AIM.)

ADVISORY SERVICE- Advice and information provided by a facility to assist pilots in the safe conduct of flight and aircraft movement.

(See LOCAL AIRPORT ADVISORY.)

(See TRAFFIC ADVISORIES.)

(See SAFETY ALERT.)

(See ADDITIONAL SERVICES.)

(See RADAR ADVISORY.)

(See EN ROUTE FLIGHT ADVISORY SERVICE.)

(Refer to AIM.)

AERIAL REFUELING- A procedure used by the military to transfer fuel from one aircraft to another during flight.

(Refer to VFR/IFR Wall Planning Charts.)

AERODROME- A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure, and movement of aircraft.

AERODROME BEACON [ICAO]- Aeronautical beacon used to indicate the location of an aerodrome from the air.

AERODROME CONTROL SERVICE [ICAO]- Air traffic control service for aerodrome traffic.

AERODROME CONTROL TOWER [ICAO]- A unit established to provide air traffic control service to aerodrome traffic.

AERODROME ELEVATION [ICAO]- The elevation of the highest point of the landing area.

AERODROME TRAFFIC CIRCUIT [ICAO]- The specified path to be flown by aircraft operating in the vicinity of an aerodrome.

AERONAUTICAL BEACON- A visual NAVAID displaying flashes of white and/or colored light to indicate the location of an airport, a heliport, a landmark, a certain point of a Federal airway in mountainous terrain, or an obstruction.

(See AIRPORT ROTATING BEACON.)

(Refer to AIM.)

AERONAUTICAL CHART- A map used in air navigation containing all or part of the following: topographic features, hazards and obstructions, navigation aids, navigation routes, designated airspace, and airports. Commonly used aeronautical charts are:

a. Sectional Aeronautical Charts (1:500,000)- Designed for visual navigation of slow or medium speed aircraft. Topographic information on these charts features the portrayal of relief and a judicious selection of visual check points for VFR flight. Aeronautical information includes visual and radio aids to navigation, airports, controlled airspace, restricted areas, obstructions, and related data.

b. VFR Terminal Area Charts (1:250,000)- Depict Class B airspace which provides for the control or segregation of all the aircraft within Class B airspace. The chart depicts topographic information and aeronautical information which includes visual and radio aids to navigation, airports, controlled airspace, restricted areas, obstructions, and related data.

c. World Aeronautical Charts (WAC) (1:1,000,000)- Provide a standard series of aeronautical charts covering land areas of the world at a size and scale convenient for navigation by moderate speed aircraft. Topographic information includes cities and towns, principal roads, railroads, distinctive landmarks, drainage, and relief. Aeronautical information includes visual and radio aids to navigation, airports, airways, restricted areas, obstructions, and other pertinent data.

d. En Route Low Altitude Charts- Provide aeronautical information for en route instrument navigation (IFR) in the low altitude stratum. Information includes the portrayal of airways, limits of controlled airspace, position identification and frequencies of radio aids, selected airports, minimum en route and minimum obstruction clearance altitudes, airway distances, reporting points, restricted areas, and related data. Area charts, which are a part of this series, furnish terminal data at a larger scale in congested areas.

e. En Route High Altitude Charts- Provide aeronautical information for en route instrument navigation (IFR) in the high altitude stratum. Information includes the portrayal of jet routes, identification and frequencies of radio aids, selected airports, distances, time zones, special use airspace, and related information.

f. Instrument Approach Procedures (IAP) Charts- Portray the aeronautical data which is required to execute an instrument approach to an airport. These charts depict the procedures, including all related data, and the airport diagram. Each procedure is designated for use with a specific type of electronic navigation system including NDB, TACAN, VOR, ILS/MLS, and RNAV. These charts are identified by the type of navigational aid(s) which provide final approach guidance.

g. Instrument Departure Procedure (DP) Charts- Designed to expedite clearance delivery and to facilitate transition between takeoff and en route operations. Each DP is presented as a separate chart and may serve a single airport or more than one airport in a given geographical location.

h. Standard Terminal Arrival (STAR) Charts- Designed to expedite air traffic control arrival procedures and to facilitate transition between en route and instrument approach operations. Each STAR procedure is presented as a separate chart and may serve a single airport or more than one airport in a given geographical location.

i. Airport Taxi Charts- Designed to expedite the efficient and safe flow of ground traffic at an airport. These charts are identified by the official airport name; e.g., Washington National Airport.

(See ICAO term AERONAUTICAL CHART.)

AERONAUTICAL CHART [ICAO]- A representation of a portion of the earth, its culture and relief, specifically designated to meet the requirements of air navigation.

AERONAUTICAL INFORMATION MANUAL- A primary FAA publication whose purpose is to instruct airmen about operating in the National Airspace System of the U.S. It provides basic flight information, ATC Procedures and general instructional information concerning health, medical facts, factors affecting flight safety, accident and hazard reporting, and types of aeronautical charts and their use.

AERONAUTICAL INFORMATION PUBLICATION [AIP] [ICAO]- A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

A/FD-

(See AIRPORT/FACILITY DIRECTORY.)

AFFIRMATIVE- Yes.

AIM-

(See AERONAUTICAL INFORMATION MANUAL.)

AIP [ICAO]-

(See AERONAUTICAL INFORMATION PUBLICATION.)

AIRBORNE DELAY- Amount of delay to be encountered in airborne holding.

AIR CARRIER DISTRICT OFFICE- An FAA field office serving an assigned geographical area, staffed with Flight Standards personnel serving the aviation industry and the general public on matters related to the certification and operation of scheduled air carriers and other large aircraft operations.

AIRCRAFT- Device(s) that are used or intended to be used for flight in the air, and when used in air traffic control terminology, may include the flight crew.

(See ICAO term AIRCRAFT.)

AIRCRAFT [ICAO]- Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

AIRCRAFT APPROACH CATEGORY- A grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration at maximum gross landing

weight. An aircraft shall fit in only one category. If it is necessary to maneuver at speeds in excess of the upper limit of a speed range for a category, the minimums for the next higher category should be used. For example, an aircraft which falls in Category A, but is circling to land at a speed in excess of 91 knots, should use the approach Category B minimums when circling to land. The categories are as follows:

a. Category A- Speed less than 91 knots.

b. Category B- Speed 91 knots or more but less than 121 knots.

c. Category C- Speed 121 knots or more but less than 141 knots.

d. Category D- Speed 141 knots or more but less than 166 knots.

e. Category E- Speed 166 knots or more.

(Refer to Part 97.)

AIRCRAFT CLASSES- For the purposes of Wake Turbulence Separation Minima, ATC classifies aircraft as Heavy, Large, and Small as follows:

a. Heavy- Aircraft capable of takeoff weights of more than 255,000 pounds whether or not they are operating at this weight during a particular phase of flight.

b. Large- Aircraft of more than 41,000 pounds, maximum certificated takeoff weight, up to 255,000 pounds.

c. Small- Aircraft of 41,000 pounds or less maximum certificated takeoff weight.

(Refer to AIM.)

AIRCRAFT CONFLICT- Predicted conflict, within URET CCLD, of two aircraft, or between aircraft and airspace. A Red alert is used for conflicts when the predicted minimum separation is 5 nautical miles or less. A Yellow alert is used when the predicted minimum separation is between 5 and approximately 12 nautical miles. A Blue alert is used for conflicts between an aircraft and predefined airspace.

(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

AIRCRAFT LIST (ACL)- A view available with URET CCLD that lists aircraft currently in or predicted to be in a particular sector's airspace. The view contains textual flight data information in line format and may be sorted into various orders based on the specific needs of the sector team.

(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

AIRCRAFT SURGE LAUNCH AND RECOVERY- Procedures used at USAF bases to provide increased launch and recovery rates in instrument flight rules conditions. ASLAR is based on:

a. Reduced separation between aircraft which is based on time or distance. Standard arrival separation applies between participants including multiple flights until the DRAG point. The DRAG point is a published location on an ASLAR approach where aircraft landing second in a formation slows to a predetermined airspeed. The DRAG point is the reference point at which MARSA applies as expanding elements effect separation within a flight or between subsequent participating flights.

b. ASLAR procedures shall be covered in a Letter of Agreement between the responsible USAF military ATC facility and the concerned Federal Aviation Administration facility. Initial Approach Fix spacing requirements are normally addressed as a minimum.

AIR DEFENSE EMERGENCY- A military emergency condition declared by a designated authority. This condition exists when an attack upon the continental U.S., Alaska, Canada, or U.S. installations in Greenland by hostile aircraft or missiles is considered probable, is imminent, or is taking place.

(Refer to AIM.)

AIR DEFENSE IDENTIFICATION ZONE- The area of airspace over land or water, extending upward from the surface, within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

a. Domestic Air Defense Identification Zone. An ADIZ within the United States along an international boundary of the United States.

b. Coastal Air Defense Identification Zone. An ADIZ over the coastal waters of the United States.

c. Distant Early Warning Identification Zone (DEWIZ.) An ADIZ over the coastal waters of the State of Alaska.

ADIZ locations and operating and flight plan requirements for civil aircraft operations are specified in FAR Part 99.

(Refer to AIM.)

AIRMAN'S METEOROLOGICAL INFORMATION-

(See AIRMET.)

AIRMET- In-flight weather advisories issued only to amend the area forecast concerning weather phenomena which are of operational interest to all aircraft and

potentially hazardous to aircraft having limited capability because of lack of equipment, instrumentation, or pilot qualifications. AIRMET's concern weather of less severity than that covered by SIGMET's or Convective SIGMET's. AIRMET's cover moderate icing, moderate turbulence, sustained winds of 30 knots or more at the surface, widespread areas of ceilings less than 1,000 feet and/or visibility less than 3 miles, and extensive mountain obscurement.

(See AWW.)

(See SIGMET.)

(See CONVECTIVE SIGMET.)

(See CWA.)

(Refer to AIM.)

AIR NAVIGATION FACILITY- Any facility used in, available for use in, or designed for use in, aid of air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio-directional finding, or for radio or other electrical communication, and any other structure or mechanism having a similar purpose for guiding or controlling flight in the air or the landing and take-off of aircraft.

(See NAVIGATIONAL AID.)

AIRPORT- An area on land or water that is used or intended to be used for the landing and takeoff of aircraft and includes its buildings and facilities, if any.

AIRPORT ADVISORY AREA- The area within ten miles of an airport without a control tower or where the tower is not in operation, and on which a Flight Service Station is located.

(See LOCAL AIRPORT ADVISORY.)

(Refer to AIM.)

AIRPORT ARRIVAL RATE (AAR)- A dynamic input parameter specifying the number of arriving aircraft which an airport or airspace can accept from the ARTCC per hour. The AAR is used to calculate the desired interval between successive arrival aircraft.

AIRPORT DEPARTURE RATE (ADR)- A dynamic parameter specifying the number of aircraft which can depart an airport and the airspace can accept per hour.

AIRPORT ELEVATION- The highest point of an airport's usable runways measured in feet from mean sea level.

(See TOUCHDOWN ZONE ELEVATION.)

(See ICAO term AERODROME ELEVATION.)

AIRPORT/FACILITY DIRECTORY- A publication designed primarily as a pilot's operational manual containing all airports, seaplane bases, and heliports open to the public including communications data, navigational facilities, and certain special notices and procedures. This publication is issued in seven volumes according to geographical area.

AIRPORT INFORMATION AID-

(See AIRPORT INFORMATION DESK.)

AIRPORT INFORMATION DESK- An airport unmanned facility designed for pilot self-service briefing, flight planning, and filing of flight plans.

(Refer to AIM.)

AIRPORT LIGHTING- Various lighting aids that may be installed on an airport. Types of airport lighting include:

a. Approach Light System (ALS)- An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on his final approach for landing. Condenser-Discharge Sequential Flashing Lights/Sequenced Flashing Lights may be installed in conjunction with the ALS at some airports. Types of Approach Light Systems are:

1. ALSF-1- Approach Light System with Sequenced Flashing Lights in ILS Cat-I configuration.

2. ALSF-2- Approach Light System with Sequenced Flashing Lights in ILS Cat-II configuration. The ALSF-2 may operate as an SSALR when weather conditions permit.

3. SSALF- Simplified Short Approach Light System with Sequenced Flashing Lights.

4. SSALR- Simplified Short Approach Light System with Runway Alignment Indicator Lights.

5. MALSF- Medium Intensity Approach Light System with Sequenced Flashing Lights.

6. MALSR- Medium Intensity Approach Light System with Runway Alignment Indicator Lights.

7. LDIN- Lead-in-light system- Consists of one or more series of flashing lights installed at or near ground level that provides positive visual guidance along an approach path, either curving or straight, where special problems exist with hazardous terrain, obstructions, or noise abatement procedures.

8. RAIL- Runway Alignment Indicator Lights- Sequenced Flashing Lights which are installed only in combination with other light systems.

9. ODALS- Omnidirectional Approach Lighting System consists of seven omnidirectional flashing lights located in the approach area of a nonprecision runway. Five lights are located on the runway centerline extended with the first light located 300 feet from the threshold and extending at equal intervals up to 1,500 feet from the threshold. The other two lights are located, one on each side of the runway threshold, at a lateral distance of 40 feet from the runway edge, or 75 feet from the runway edge when installed on a runway equipped with a VASI.

(Refer to FAAO 6850.2, VISUAL GUIDANCE LIGHTING SYSTEMS.)

b. Runway Lights/Runway Edge Lights- Lights having a prescribed angle of emission used to define the lateral limits of a runway. Runway lights are uniformly spaced at intervals of approximately 200 feet, and the intensity may be controlled or preset.

c. Touchdown Zone Lighting- Two rows of transverse light bars located symmetrically about the runway centerline normally at 100 foot intervals. The basic system extends 3,000 feet along the runway.

d. Runway Centerline Lighting- Flush centerline lights spaced at 50-foot intervals beginning 75 feet from the landing threshold and extending to within 75 feet of the opposite end of the runway.

e. Threshold Lights- Fixed green lights arranged symmetrically left and right of the runway centerline, identifying the runway threshold.

f. Runway End Identifier Lights (REIL)- Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway.

g. Visual Approach Slope Indicator (VASI)- An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he is "on path" if he sees red/white, "above path" if white/white, and "below path" if red/red. Some airports serving large aircraft have three-bar VASI's which provide two visual glide paths to the same runway.

h. Boundary Lights- Lights defining the perimeter of an airport or landing area.

(Refer to AIM.)

AIRPORT MARKING AIDS- Markings used on runway and taxiway surfaces to identify a specific runway, a runway threshold, a centerline, a hold line, etc. A runway should be marked in accordance with its present usage such as:

a. Visual.

b. Nonprecision instrument.

c. Precision instrument.

(Refer to AIM.)

AIRPORT MOVEMENT AREA SAFETY SYSTEM (AMASS)- A software enhancement to ASDE radar which provides logic predicting the path of aircraft landing and/or departing, and aircraft and/or vehicular movements on runways. Visual and aural alarms are activated when logic projects a potential collision.

AIRPORT REFERENCE POINT (ARP) - The approximate geometric center of all usable runway surfaces.

AIRPORT RESERVATION OFFICE- Office responsible for monitoring the operation of the high density rule. Receives and processes requests for IFR operations at high density traffic airports.

AIRPORT ROTATING BEACON- A visual NAVAID operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport. At military airports, the beacons flash alternately white and green, but are differentiated from civil beacons by dualpeaked (two quick) white flashes between the green flashes.

(See SPECIAL VFR OPERATIONS.)

(See INSTRUMENT FLIGHT RULES.)

(Refer to AIM.)

(See ICAO term AERODROME BEACON.)

AIRPORT SURFACE DETECTION EQUIPMENT- Radar equipment specifically designed to detect all principal features on the surface of an airport, including aircraft and vehicular traffic, and to present the entire image on a radar indicator console in the control tower. Used to augment visual observation by tower personnel of aircraft and/or vehicular movements on runways and taxiways.

AIRPORT SURVEILLANCE RADAR- Approach control radar used to detect and display an aircraft's position in the terminal area. ASR provides range and azimuth information but does not provide elevation data. Coverage of the ASR can extend up to 60 miles.

AIRPORT TAXI CHARTS-

(See AERONAUTICAL CHART.)

AIRPORT TRAFFIC CONTROL SERVICE- A service provided by a control tower for aircraft operating on the movement area and in the vicinity of an airport.

(See MOVEMENT AREA.)

(See TOWER.)

(See ICAO term AERODROME CONTROL SERVICE.)

AIRPORT TRAFFIC CONTROL TOWER-

(See TOWER.)

AIR ROUTE SURVEILLANCE RADAR- Air route traffic control center (ARTCC) radar used primarily to detect and display an aircraft's position while en route between terminal areas. The ARSR enables controllers to provide radar air traffic control service when aircraft are within the ARSR coverage. In some instances, ARSR may enable an ARTCC to provide terminal radar services similar to but usually more limited than those provided by a radar approach control.

AIR ROUTE TRAFFIC CONTROL CENTER- A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to VFR aircraft.

(See NAS STAGE A.)

(See EN ROUTE AIR TRAFFIC CONTROL SERVICES.)

(Refer to AIM.)

AIRSPACE CONFLICT- Predicted conflict of an aircraft and active Special Activity Airspace (SAA).

AIRSPACE HIERARCHY- Within the airspace classes, there is a hierarchy and, in the event of an overlap of airspace: Class A preempts Class B, Class B preempts Class C, Class C preempts Class D, Class D preempts Class E, and Class E preempts Class G.

AIRSPEED- The speed of an aircraft relative to its surrounding air mass. The unqualified term "airspeed" means one of the following:

a. Indicated Airspeed- The speed shown on the aircraft airspeed indicator. This is the speed used in pilot/controller communications under the general term "airspeed."

(Refer to FAR Part 1.)

b. True Airspeed- The airspeed of an aircraft relative to undisturbed air. Used primarily in flight planning and en route portion of flight. When used in pilot/controller communications, it is referred to as "true airspeed" and not shortened to "airspeed."

AIRSTART- The starting of an aircraft engine while the aircraft is airborne, preceded by engine shutdown during training flights or by actual engine failure.

AIR TAXI- Used to describe a helicopter/VTOL aircraft movement conducted above the surface but normally not above 100 feet AGL. The aircraft may proceed either via hover taxi or flight at speeds more than 20 knots. The pilot is solely responsible for selecting a safe airspeed/altitude for the operation being conducted.

(See HOVER TAXI.)

(Refer to AIM.)

AIR TRAFFIC- Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

(See ICAO term AIR TRAFFIC.)

AIR TRAFFIC [ICAO]- All aircraft in flight or operating on the manoeuvering area of an aerodrome.

AIR TRAFFIC CLEARANCE- An authorization by air traffic control for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace. The pilot-in-command of an aircraft may not deviate from the provisions of a visual flight rules (VFR) or instrument flight rules (IFR) air traffic clearance except in an emergency or unless an amended clearance has been obtained. Additionally, the pilot may request a different clearance from that which has been issued by air traffic control (ATC) if information available to the pilot makes another course of action more practicable or if aircraft equipment limitations or company procedures forbid compliance with the clearance issued. Pilots may also request clarification or amendment, as appropriate, any time a clearance is not fully understood, or considered unacceptable because of safety of flight. Controllers should, in such instances and to the extent of operational practicality and safety, honor the pilot's request. FAR Part 91.3(a) states: "The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft." THE PILOT IS RESPONSIBLE TO REQUEST AN AMENDED CLEARANCE if ATC issues a clearance that would cause a pilot to deviate from a rule or regulation, or in the pilot's opinion, would place the aircraft in jeopardy.

(See ATC INSTRUCTIONS.)

(See ICAO term AIR TRAFFIC CONTROL CLEARANCE.)

AIR TRAFFIC CONTROL- A service operated by appropriate authority to promote the safe, orderly and expeditious flow of air traffic.

(See ICAO term AIR TRAFFIC CONTROL SERVICE.)

AIR TRAFFIC CONTROL CLEARANCE [ICAO]- Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.

Note 1: For convenience, the term air traffic control clearance is frequently abbreviated to clearance when used in appropriate contexts.

Note 2: The abbreviated term clearance may be prefixed by the words taxi, takeoff, departure, en route, approach or landing to indicate the particular portion of flight to which the air traffic control clearance relates.

AIR TRAFFIC CONTROL SERVICE-

(See AIR TRAFFIC CONTROL.)

AIR TRAFFIC CONTROL SERVICE [ICAO]- A service provided for the purpose of:

a. Preventing collisions:

1. Between aircraft; and

2. On the manoeuvering area between aircraft and obstructions; and

b. Expediting and maintaining an orderly flow of air traffic.

AIR TRAFFIC CONTROL SPECIALIST- A person authorized to provide air traffic control service.

(See AIR TRAFFIC CONTROL.)

(See FLIGHT SERVICE STATION.)

(See ICAO term CONTROLLER.)

AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER- An Air Traffic Tactical Operations facility consisting of four operational units.

a. Central Flow Control Function (CFCF). Responsible for coordination and approval of all major intercenter flow control restrictions on a system basis in order to obtain maximum utilization of the airspace.

(See QUOTA FLOW CONTROL.)

b. Central Altitude Reservation Function (CARF). Responsible for coordinating, planning, and approving special user requirements under the Altitude Reservation (ALTRV) concept.

(See ALTITUDE RESERVATION.)

c. Airport Reservation Office (ARO). Responsible for approving IFR flights at designated high density traffic airports (John F. Kennedy, LaGuardia, O'Hare, and Washington National) during specified hours.

(Refer to FAR Part 93.)

(Refer to AIRPORT/FACILITY DIRECTORY.)

d. ATC Contingency Command Post. A facility which enables the FAA to manage the ATC system when significant portions of the system's capabilities have been lost or are threatened.

AIR TRAFFIC SERVICE- A generic term meaning:

a. Flight Information Service:

b. Alerting Service:

c. Air Traffic Advisory Service:

d. Air Traffic Control Service:

1. Area Control Service,

2. Approach Control Service, or

3. Airport Control Service.

AIRWAY- A Class E airspace area established in the form of a corridor, the centerline of which is defined by radio navigational aids.

(See FEDERAL AIRWAYS.)

(Refer to FAR Part 71.)

(Refer to AIM.)

(See ICAO term AIRWAY.)

AIRWAY [ICAO]- A control area or portion thereof established in the form of corridor equipped with radio navigational aids.

AIRWAY BEACON- Used to mark airway segments in remote mountain areas. The light flashes Morse Code to identify the beacon site.

(Refer to AIM.)

AIT-

(See AUTOMATED INFORMATION TRANSFER.)

ALERFA (Alert Phase) [ICAO]- A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

ALERT- A notification to a position that there is an aircraft-to-aircraft or aircraft-to airspace conflict, as detected by Automated Problem Detection (APD).

ALERT AREA-

(See SPECIAL USE AIRSPACE.)

ALERT NOTICE- A request originated by a flight service station (FSS) or an air route traffic control center (ARTCC) for an extensive communication search for overdue, unreported, or missing aircraft.

ALERTING SERVICE- A service provided to notify appropriate organizations regarding aircraft in need of

search and rescue aid and assist such organizations as required.

ALNOT- (See ALERT NOTICE.)

ALONG TRACK DISTANCE (LTD) - The distance measured from a point-in-space by systems using area navigation reference capabilities that are not subject to slant range errors.

ALPHANUMERIC DISPLAY- Letters and numerals used to show identification, altitude, beacon code, and other information concerning a target on a radar display.

(See AUTOMATED RADAR TERMINAL SYSTEMS.)

(See NAS STAGE A.)

ALTERNATE AERODROME [ICAO]- An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing.

Note: The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for the flight.

ALTERNATE AIRPORT- An airport at which an aircraft may land if a landing at the intended airport becomes inadvisable.

(See ICAO term ALTERNATE AERODROME.)

ALTIMETER SETTING- The barometric pressure reading used to adjust a pressure altimeter for variations in existing atmospheric pressure or to the standard altimeter setting (29.92.)

(Refer to FAR Part 91.)

(Refer to AIM.)

ALTITUDE- The height of a level, point, or object measured in feet Above Ground Level (AGL) or from Mean Sea Level (MSL.)

(See FLIGHT LEVEL.)

a. MSL Altitude- Altitude expressed in feet measured from mean sea level.

b. AGL Altitude- Altitude expressed in feet measured above ground level.

c. Indicated Altitude- The altitude as shown by an altimeter. On a pressure or barometric altimeter it is altitude as shown uncorrected for instrument error and uncompensated for variation from standard atmospheric conditions.

(See ICAO term ALTITUDE.)

ALTITUDE [ICAO]- The vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL.)

ALTITUDE READOUT- An aircraft's altitude, transmitted via the Mode C transponder feature, that is visually displayed in 100-foot increments on a radar scope having readout capability.

(See AUTOMATED RADAR TERMINAL SYSTEMS.)

(See NAS STAGE A.)

(See ALPHANUMERIC DISPLAY.)

(Refer to AIM.)

ALTITUDE RESERVATION- Airspace utilization under prescribed conditions normally employed for the mass movement of aircraft or other special user requirements which cannot otherwise be accomplished. ALTRV's are approved by the appropriate FAA facility.

(See AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER.)

ALTITUDE RESTRICTION- An altitude or altitudes, stated in the order flown, which are to be maintained until reaching a specific point or time. Altitude restrictions may be issued by ATC due to traffic, terrain, or other airspace considerations.

ALTITUDE RESTRICTIONS ARE CANCELED- Adherence to previously imposed altitude restrictions is no longer required during a climb or descent.

ALTRV-

(See ALTITUDE RESERVATION.)

AMASS-

(See AIRPORT MOVEMENT AREA SAFETY SYSTEM.)

AMVER-

(See AUTOMATED MUTUAL-ASSISTANCE VESSEL RESCUE SYSTEM.)

APB-

(See AUTOMATED PROBLEM DETECTION BOUNDARY.)

APD-

(See AUTOMATED PROBLEM DETECTION.)

APDIA-

(See AUTOMATED PROBLEM DETECTION INHIBITED AREA.)

APPROACH CLEARANCE- Authorization by ATC for a pilot to conduct an instrument approach. The type of instrument approach for which a clearance and other

pertinent information is provided in the approach clearance when required.

(See INSTRUMENT APPROACH PROCEDURE.)

(See CLEARED APPROACH.)

(Refer to AIM and FAR Part 91.)

APPROACH CONTROL FACILITY- A terminal ATC facility that provides approach control service in a terminal area.

(See APPROACH CONTROL SERVICE.)

(See RADAR APPROACH CONTROL FACILITY.)

APPROACH CONTROL SERVICE- Air traffic control service provided by an approach control facility for arriving and departing VFR/IFR aircraft and, on occasion, en route aircraft. At some airports not served by an approach control facility, the ARTCC provides limited approach control service.

(Refer to AIM.)

(See ICAO term APPROACH CONTROL SERVICE.)

APPROACH CONTROL SERVICE [ICAO]- Air traffic control service for arriving or departing controlled flights.

APPROACH GATE- An imaginary point used within ATC as a basis for vectoring aircraft to the final approach course. The gate will be established along the final approach course 1 mile from the final approach fix on the side away from the airport and will be no closer than 5 miles from the landing threshold.

APPROACH LIGHT SYSTEM-

(See AIRPORT LIGHTING.)

APPROACH SEQUENCE- The order in which aircraft are positioned while on approach or awaiting approach clearance.

(See LANDING SEQUENCE.)

(See ICAO term APPROACH SEQUENCE.)

APPROACH SEQUENCE [ICAO]- The order in which two or more aircraft are cleared to approach to land at the aerodrome.

APPROACH SPEED- The recommended speed contained in aircraft manuals used by pilots when making an approach to landing. This speed will vary for different segments of an approach as well as for aircraft weight and configuration.

APPROPRIATE ATS AUTHORITY [ICAO]- The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned. In the United States, the "appropriate ATS authority" is the Program Director for Air Traffic Planning and Procedures, ATP-1.

APPROPRIATE AUTHORITY-

a. Regarding flight over the high seas: the relevant authority is the State of Registry.

b. Regarding flight over other than the high seas: the relevant authority is the State having sovereignty over the territory being overflown.

APPROPRIATE OBSTACLE CLEARANCE MINIMUM ALTITUDE- Any of the following:

(See Minimum IFR Altitude- MIA.)

(See Minimum En Route Altitude- MEA.)

(See Minimum Obstruction Clearance Altitude- MOCA.)

(See Minimum Vectoring Altitude- MVA.)

APPROPRIATE TERRAIN CLEARANCE MINIMUM ALTITUDE- Any of the following:

(See Minimum IFR Altitude- MIA.)

(See Minimum En Route Altitude- MEA.)

(See Minimum Obstruction Clearance Altitude- MOCA.)

(See Minimum Vectoring Altitude- MVA.)

APRON- A defined area on an airport or heliport intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance. With regard to seaplanes, a ramp is used for access to the apron from the water.

(See ICAO term APRON.)

APRON [ICAO]- A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, refueling, parking or maintenance.

ARC- The track over the ground of an aircraft flying at a constant distance from a navigational aid by reference to distance measuring equipment (DME).

AREA CONTROL CENTER [ICAO]- An ICAO term for an air traffic control facility primarily responsible for ATC services being provided IFR aircraft during the en route phase of flight. The U.S. equivalent facility is an air route traffic control center (ARTCC).

AREA NAVIGATION- Area Navigation (RNAV) provides enhanced navigational capability to the pilot. RNAV equipment can compute the airplane position, actual track and ground speed and then provide meaningful information relative to a route of flight selected by the pilot. Typical equipment will provide the pilot with distance, time, bearing and crosstrack error relative to the selected "TO" or "active" waypoint and the selected route. Several distinctly different

navigational systems with different navigational performance characteristics are capable of providing area navigational functions. Present day RNAV includes INS, LORAN, VOR/DME, and GPS systems. Modern multi-sensor systems can integrate one or more of the above systems to provide a more accurate and reliable navigational system. Due to the different levels of performance, area navigational capabilities can satisfy different levels of required navigational performance (RNP). The major types of equipment are:

a. VORTAC referenced or Course Line Computer (CLC) systems, which account for the greatest number of RNAV units in use. To function, the CLC must be within the service range of a VORTAC.

b. OMEGA/VLF, although two separate systems, can be considered as one operationally. A long-range navigation system based upon Very Low Frequency radio signals transmitted from a total of 17 stations worldwide.

c. Inertial (INS) systems, which are totally self-contained and require no information from external references. They provide aircraft position and navigation information in response to signals resulting from inertial effects on components within the system.

d. MLS Area Navigation (MLS/RNAV), which provides area navigation with reference to an MLS ground facility.

e. LORAN-C is a long-range radio navigation system that uses ground waves transmitted at low frequency to provide user position information at ranges of up to 600 to 1,200 nautical miles at both en route and approach altitudes. The usable signal coverage areas are determined by the signal-to-noise ratio, the envelope-to-cycle difference, and the geometric relationship between the positions of the user and the transmitting stations.

f. GPS-is a space-base radio positioning, navigation, and time-transfer system. The system provides highly accurate position and velocity information, and precise time, on a continuous global basis, to an unlimited number of properly equipped users. The system is unaffected by weather, and provides a worldwide common grid reference system.

(See ICAO term AREA NAVIGATION.)

AREA NAVIGATION [ICAO]- A method of navigation which permits aircraft operation on any desired flight path within the coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

AREA NAVIGATION (RNAV) APPROACH CONFIGURATION:

a. STANDARD T- An RNAV approach whose design allows direct flight to any one of three initial approach fixes (IAF) and eliminates the need for procedure turns. The standard design is to align the procedure on the extended centerline with the missed approach point (MAP) at the runway threshold, the final approach fix (FAF), and the initial approach/intermediate fix (IAF/IF). The other two IAF's will be established perpendicular to the IF.

b. MODIFIED T- An RNAV approach design for single or multiple runways where terrain or operational constraints do not allow for the standard T. The "T" may be modified by increasing or decreasing the angle from the corner IAF(s) to the IF or by eliminating one or both corner IAF's.

c. STANDARD I- An RNAV approach design for a single runway with both corner IAF's eliminated. Course reversal or radar vectoring may be required at busy terminals with multiple runways.

d. TERMINAL ARRIVAL AREA (TAA)- The TAA is controlled airspace established in conjunction with the Standard or Modified T and I RNAV approach configurations. In the standard TAA, there are three areas: straight-in, left base, and right base. The arc boundaries of the three areas of the TAA are published portions of the approach and allow aircraft to transition from the en route structure direct to the nearest IAF. TAA's will also eliminate or reduce feeder routes, departure extensions, and procedure turns or course reversal.

1. STRAIGHT-IN AREA- A 30NM arc centered on the IF bounded by a straight line extending through the IF perpendicular to the intermediate course.

2. LEFT BASE AREA- A 30NM arc centered on the right corner IAF. The area shares a boundary with the straight-in area except that it extends out for 30NM from the IAF and is bounded on the other side by a line extending from the IF through the FAF to the arc.

3. RIGHT BASE AREA- A 30NM arc centered on the left corner IAF. The area shares a boundary with the straight-in area except that it extends out for 30NM from the IAF and is bounded on the other side by a line extending from the IF through the FAF to the arc.

ARINC- An acronym for Aeronautical Radio, Inc., a corporation largely owned by a group of airlines.

ARINC is licensed by the FCC as an aeronautical station and contracted by the FAA to provide communications support for air traffic control and meteorological services in portions of international airspace.

ARMY AVIATION FLIGHT INFORMATION BULLETIN- A bulletin that provides air operation data covering Army, National Guard, and Army Reserve aviation activities.

ARO-
(See AIRPORT RESERVATION OFFICE.)

ARRESTING SYSTEM- A safety device consisting of two major components, namely, engaging or catching devices and energy absorption devices for the purpose of arresting both tailhook and/or nontailhook-equipped aircraft. It is used to prevent aircraft from overrunning runways when the aircraft cannot be stopped after landing or during aborted takeoff. Arresting systems have various names; e.g., arresting gear, hook device, wire barrier cable.
(See ABORT.)
(Refer to AIM.)

ARRIVAL AIRCRAFT INTERVAL- An internally generated program in hundredths of minutes based upon the AAR. AAI is the desired optimum interval between successive arrival aircraft over the vertex.

ARRIVAL CENTER- The ARTCC having jurisdiction for the impacted airport.

ARRIVAL DELAY- A parameter which specifies a period of time in which no aircraft will be metered for arrival at the specified airport.

ARRIVAL SECTOR- An operational control sector containing one or more meter fixes.

ARRIVAL SECTOR ADVISORY LIST- An ordered list of data on arrivals displayed at the PVD/MDM of the sector which controls the meter fix.

ARRIVAL SEQUENCING PROGRAM- The automated program designed to assist in sequencing aircraft destined for the same airport.

ARRIVAL STREAM FILTER (ASF)- An on/off filter that allows the conflict notification function to be inhibited for arrival streams into single or multiple airports to prevent nuisance alerts.

ARRIVAL TIME- The time an aircraft touches down on arrival.

ARSR-
(See AIR ROUTE SURVEILLANCE RADAR.)

ARTCC-
(See AIR ROUTE TRAFFIC CONTROL CENTER.)

ARTS-
(See AUTOMATED RADAR TERMINAL SYSTEMS.)

ASDA-
(See ACCELERATE-STOP DISTANCE AVAILABLE.)

ASDA [ICAO]-
(See ICAO Term ACCELERATE-STOP DISTANCE AVAILABLE.)

ASDE-
(See AIRPORT SURFACE DETECTION EQUIPMENT.)

ASF-
(See ARRIVAL STREAM FILTER.)

ASLAR-
(See AIRCRAFT SURGE LAUNCH AND RECOVERY.)

ASP-
(See ARRIVAL SEQUENCING PROGRAM.)

ASR-
(See AIRPORT SURVEILLANCE RADAR.)

ASR APPROACH-
(See SURVEILLANCE APPROACH.)

ATC-
(See AIR TRAFFIC CONTROL.)

ATCAA-
(See ATC ASSIGNED AIRSPACE.)

ATC ADVISES- Used to prefix a message of noncontrol information when it is relayed to an aircraft by other than an air traffic controller.
(See ADVISORY.)

ATC ASSIGNED AIRSPACE- Airspace of defined vertical/lateral limits, assigned by ATC, for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR air traffic.
(See SPECIAL USE AIRSPACE.)

ATC CLEARANCE-
(See AIR TRAFFIC CLEARANCE.)

ATC CLEARS- Used to prefix an ATC clearance when it is relayed to an aircraft by other than an air traffic controller.

ATC INSTRUCTIONS- Directives issued by air traffic control for the purpose of requiring a pilot to take specific actions; e.g., "Turn left heading two five zero," "Go around," "Clear the runway."
(Refer to FAR Part 91.)

ATC PREFERRED ROUTE NOTIFICATION- URET CCLD notification to the appropriate controller of the

need to determine if an ATC preferred route needs to be applied, based on destination airport.

(See ROUTE ACTION NOTIFICATION.)

(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

ATC PREFERRED ROUTES- Preferred routes that are not automatically applied by Host.

ATCRBS-

(See RADAR.)

ATC REQUESTS- Used to prefix an ATC request when it is relayed to an aircraft by other than an air traffic controller.

ATCSCC-

(See AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER.)

ATCSCC DELAY FACTOR- The amount of delay calculated to be assigned prior to departure.

ATCT-

(See TOWER.)

ATIS-

(See AUTOMATIC TERMINAL INFORMATION SERVICE.)

ATIS [ICAO]-

(See ICAO Term AUTOMATIC TERMINAL INFORMATION SERVICE.)

ATS Route [ICAO]- A specified route designed for channelling the flow of traffic as necessary for the provision of air traffic services.

Note: The term "ATS Route" is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure, etc.

ATTS-

(See AUTOMATED TERMINAL TRACKING SYSTEM.)

AUTOLAND APPROACH- An autoland approach is a precision instrument approach to touchdown and, in some cases, through the landing rollout. An autoland approach is performed by the aircraft autopilot which is receiving position information and/or steering commands from onboard navigation equipment.

(See COUPLED APPROACH.)

Note: Autoland and coupled approaches are flown in VFR and IFR. It is common for carriers to require their crews to fly coupled approaches and autoland approaches (if certified) when the weather conditions are less than approximately 4,000 RVR.

AUTOMATED INFORMATION TRANSFER- A pre-coordinated process, specifically defined in facility directives, during which a transfer of altitude control and/or radar identification is accomplished without verbal coordination between controllers using information communicated in a full data block.

AUTOMATED MUTUAL-ASSISTANCE VESSEL RESCUE SYSTEM- A facility which can deliver, in a matter of minutes, a surface picture (SURPIC) of vessels in the area of a potential or actual search and rescue incident, including their predicted positions and their characteristics.

(See FAAO 7110.65, Para 10-6-4, INFLIGHT CONTINGENCIES.)

AUTOMATED PROBLEM DETECTION (APD)- An Automation Processing capability that compares trajectories in order to predict conflicts.

AUTOMATED PROBLEM DETECTION BOUNDARY (APB)- The adapted distance beyond a facilities boundary defining the airspace within which URET CCLD performs conflict detection.

(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

AUTOMATED PROBLEM DETECTION INHIBITED AREA (APDIA)- Airspace surrounding a terminal area within which APD is inhibited for all flights within that airspace.

AUTOMATED RADAR TERMINAL SYSTEMS- The generic term for the ultimate in functional capability afforded by several automation systems. Each differs in functional capabilities and equipment. ARTS plus a suffix roman numeral denotes a specific system. A following letter indicates a major modification to that system. In general, an ARTS displays for the terminal controller aircraft identification, flight plan data, other flight associated information; e.g., altitude, speed, and aircraft position symbols in conjunction with his radar presentation. Normal radar co-exists with the alphanumeric display. In addition to enhancing visualization of the air traffic situation, ARTS facilitate intra/inter-facility transfer and coordination of flight information. These capabilities are enabled by specially designed computers and subsystems tailored to the radar and communications equipments and operational requirements of each automated facility. Modular design permits adoption of improvements in computer software and electronic technologies as they become available while retaining the characteristics unique to each system.

a. ARTS II. A programmable nontracking, computer-aided display subsystem capable of modular expansion. ARTS II systems provide a level of

automated air traffic control capability at terminals having low to medium activity. Flight identification and altitude may be associated with the display of secondary radar targets. The system has the capability of communicating with ARTCC's and other ARTS II, IIA, III, and IIIA facilities.

b. ARTS IIA. A programmable radar-tracking computer subsystem capable of modular expansion. The ARTS IIA detects, tracks, and predicts secondary radar targets. The targets are displayed by means of computer-generated symbols, ground speed, and flight plan data. Although it does not track primary radar targets, they are displayed coincident with the secondary radar as well as the symbols and alphanumerics. The system has the capability of communicating with ARTCC's and other ARTS II, IIA, III, and IIIA facilities.

c. ARTS III. The Beacon Tracking Level of the modular programmable automated radar terminal system in use at medium to high activity terminals. ARTS III detects, tracks, and predicts secondary radar-derived aircraft targets. These are displayed by means of computer-generated symbols and alphanumeric characters depicting flight identification, aircraft altitude, ground speed, and flight plan data. Although it does not track primary targets, they are displayed coincident with the secondary radar as well as the symbols and alphanumerics. The system has the capability of communicating with ARTCC's and other ARTS III facilities.

d. ARTS IIIA. The Radar Tracking and Beacon Tracking Level (RT&BTL) of the modular, programmable automated radar terminal system. ARTS IIIA detects, tracks, and predicts primary as well as secondary radar-derived aircraft targets. This more sophisticated computer-driven system upgrades the existing ARTS III system by providing improved tracking, continuous data recording, and fail-soft capabilities.

AUTOMATED TERMINAL TRACKING SYSTEM (ATTS)- ATTS is used to identify the numerous tracking systems including ARTS IIA, ARTS IIE, ARTS IIIA, ARTS IIIE, STARS, and M-EARTS.

AUTOMATED UNICOM- Provides completely automated weather, radio check capability and airport advisory information on an Automated UNICOM system. These systems offer a variety of features, typically selectable by microphone clicks, on the UNICOM frequency. Availability will be published in the Airport/Facility Directory and approach charts.

AUTOMATIC ALTITUDE REPORT-
(See ALTITUDE READOUT.)

AUTOMATIC ALTITUDE REPORTING- That function of a transponder which responds to Mode C interrogations by transmitting the aircraft's altitude in 100-foot increments.

AUTOMATIC CARRIER LANDING SYSTEM- U.S. Navy final approach equipment consisting of precision tracking radar coupled to a computer data link to provide continuous information to the aircraft, monitoring capability to the pilot, and a backup approach system.

AUTOMATIC DIRECTION FINDER- An aircraft radio navigation system which senses and indicates the direction to a L/MF nondirectional radio beacon (NDB) ground transmitter. Direction is indicated to the pilot as a magnetic bearing or as a relative bearing to the longitudinal axis of the aircraft depending on the type of indicator installed in the aircraft. In certain applications, such as military, ADF operations may be based on airborne and ground transmitters in the VHF/UHF frequency spectrum.
(See BEARING.)
(See NONDIRECTIONAL BEACON.)

AUTOMATIC TERMINAL INFORMATION SERVICE- The continuous broadcast of recorded noncontrol information in selected terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information; e.g., "Los Angeles information Alfa. One three zero zero Coordinated Universal Time. Weather, measured ceiling two thousand overcast, visibility three, haze, smoke, temperature seven one, dew point five seven, wind two five zero at five, altimeter two niner niner six. I-L-S Runway Two Five Left approach in use, Runway Two Five Right closed, advise you have Alfa."
(Refer to AIM.)
(See ICAO term AUTOMATIC TERMINAL INFORMATION SERVICE.)

AUTOMATIC TERMINAL INFORMATION SERVICE [ICAO]- The provision of current, routine information to arriving and departing aircraft by means

of continuous and repetitive broadcasts throughout the day or a specified portion of the day.

AUTOROTATION- A rotorcraft flight condition in which the lifting rotor is driven entirely by action of the air when the rotorcraft is in motion.

a. Autorotative Landing/Touchdown Autorotation. Used by a pilot to indicate that the landing will be made without applying power to the rotor.

b. Low Level Autorotation. Commences at an altitude well below the traffic pattern, usually below 100 feet AGL and is used primarily for tactical military training.

c. 180 degrees Autorotation. Initiated from a downwind heading and is commenced well inside the normal traffic pattern. "Go around" may not be possible during the latter part of this maneuver.

AVAILABLE LANDING DISTANCE (ALD)- The portion of a runway available for landing and roll-out for aircraft cleared for LAHSO. This distance is measured from the landing threshold to the hold-short point.

AVIATION WEATHER SERVICE- A service provided by the National Weather Service (NWS) and FAA which collects and disseminates pertinent weather information for pilots, aircraft operators, and ATC. Available aviation weather reports and forecasts are displayed at each NWS office and FAA FSS.

(See EN ROUTE FLIGHT ADVISORY SERVICE.)

(See TRANSCRIBED WEATHER BROADCAST.)

(See WEATHER ADVISORY.)

(Refer to AIM.)

AWW-

(See SEVERE WEATHER FORECAST ALERTS.)

AZIMUTH (MLS)- A magnetic bearing extending from an MLS navigation facility.

Note: azimuth bearings are described as magnetic and are referred to as "azimuth" in radio telephone communications.

CLEARANCE LIMIT- The fix, point, or location to which an aircraft is cleared when issued an air traffic clearance.

(See ICAO term CLEARANCE LIMIT.)

CLEARANCE LIMIT [ICAO]- The point of which an aircraft is granted an air traffic control clearance.

CLEARANCE VOID IF NOT OFF BY (TIME)- Used by ATC to advise an aircraft that the departure clearance is automatically canceled if takeoff is not made prior to a specified time. The pilot must obtain a new clearance or cancel his IFR flight plan if not off by the specified time.

(See ICAO term CLEARANCE VOID TIME.)

CLEARANCE VOID TIME [ICAO]- A time specified by an air traffic control unit at which a clearance ceases to be valid unless the aircraft concerned has already taken action to comply therewith.

CLEARED AS FILED- Means the aircraft is cleared to proceed in accordance with the route of flight filed in the flight plan. This clearance does not include the altitude, DP, or DP Transition.

(See REQUEST FULL ROUTE CLEARANCE.)

(Refer to AIM.)

CLEARED (Type of) APPROACH- ATC authorization for an aircraft to execute a specific instrument approach procedure to an airport; e.g., "Cleared ILS Runway Three Six Approach."

(See INSTRUMENT APPROACH PROCEDURE.)

(See APPROACH CLEARANCE.)

(Refer to AIM.)

(Refer to FAR Part 91.)

CLEARED APPROACH- ATC authorization for an aircraft to execute any standard or special instrument approach procedure for that airport. Normally, an aircraft will be cleared for a specific instrument approach procedure.

(See INSTRUMENT APPROACH PROCEDURE.)

(See CLEARED (TYPE OF) APPROACH.)

(Refer to AIM.)

(Refer to Part 91.)

CLEARED FOR TAKEOFF- ATC authorization for an aircraft to depart. It is predicated on known traffic and known physical airport conditions.

CLEARED FOR THE OPTION- ATC authorization for an aircraft to make a touch-and-go, low approach, missed approach, stop and go, or full stop landing at the discretion of the pilot. It is normally used in training so that an instructor can evaluate a student's performance under changing situations.

(See OPTION APPROACH.)

(Refer to AIM.)

CLEARED THROUGH- ATC authorization for an aircraft to make intermediate stops at specified airports without refiling a flight plan while en route to the clearance limit.

CLEARED TO LAND- ATC authorization for an aircraft to land. It is predicated on known traffic and known physical airport conditions.

CLEARWAY- An area beyond the takeoff runway under the control of airport authorities within which terrain or fixed obstacles may not extend above specified limits. These areas may be required for certain turbine-powered operations and the size and upward slope of the clearway will differ depending on when the aircraft was certificated.

(Refer to FAR Part 1.)

CLIMBOUT- That portion of flight operation between takeoff and the initial cruising altitude.

CLIMB TO VFR- ATC authorization for an aircraft to climb to VFR conditions within Class B, C, D, and E surface areas when the only weather limitation is restricted visibility. The aircraft must remain clear of clouds while climbing to VFR.

(See SPECIAL VFR CONDITIONS.)

(Refer to AIM.)

CLOSE PARALLEL RUNWAYS- Two parallel runways whose extended centerlines are separated by less than 4,300 feet, having a Precision Runway Monitoring (PRM) system that permits simultaneous independent ILS approaches.

CLOSED RUNWAY- A runway that is unusable for aircraft operations. Only the airport management/military operations office can close a runway.

CLOSED TRAFFIC- Successive operations involving takeoffs and landings or low approaches where the aircraft does not exit the traffic pattern.

CLOUD– A cloud is a visible accumulation of minute water droplets and/or ice particles in the atmosphere above the Earth's surface. Cloud differs from ground fog, fog, or ice fog only in that the latter are, by definition, in contact with the Earth's surface.

CLT-

(See CALCULATED LANDING TIME.)

CLUTTER- In radar operations, clutter refers to the reception and visual display of radar returns caused by

precipitation, chaff, terrain, numerous aircraft targets, or other phenomena. Such returns may limit or preclude ATC from providing services based on radar.

(See GROUND CLUTTER.)

(See CHAFF.)

(See PRECIPITATION.)

(See TARGET.)

(See ICAO term RADAR CLUTTER.)

CMNPS-

(See CANADIAN MINIMUM NAVIGATION PERFORMANCE SPECIFICATION AIRSPACE.)

COASTAL FIX- A navigation aid or intersection where an aircraft transitions between the domestic route structure and the oceanic route structure.

CODES- The number assigned to a particular multiple pulse reply signal transmitted by a transponder.

(See DISCRETE CODE.)

COMBINED CENTER-RAPCON- An air traffic facility which combines the functions of an ARTCC and a radar approach control facility.

(See AIR ROUTE TRAFFIC CONTROL CENTER.)

(See RADAR APPROACH CONTROL FACILITY.)

COMMON POINT- A significant point over which two or more aircraft will report passing or have reported passing before proceeding on the same or diverging tracks. To establish/maintain longitudinal separation, a controller may determine a common point not originally in the aircraft's flight plan and then clear the aircraft to fly over the point.

(See SIGNIFICANT POINT.)

COMMON PORTION-

(See COMMON ROUTE.)

COMMON ROUTE- That segment of a North American Route between the inland navigation facility and the coastal fix.

COMMON TRAFFIC ADVISORY FREQUENCY (CTAF)- A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, Multicom, FSS, or tower frequency and is identified in appropriate aeronautical publications.

(Refer to AC 90-42, Traffic Advisory Practices at Airports Without Operating Control Towers.)

COMPASS LOCATOR- A low power, low or medium frequency (L/MF) radio beacon installed at the site of the outer or middle marker of an instrument landing system (ILS). It can be used for navigation at distances of approximately 15 miles or as authorized in the approach procedure.

a. Outer Compass Locator (LOM)- A compass locator installed at the site of the outer marker of an instrument landing system.

(See OUTER MARKER.)

b. Middle Compass Locator (LMM)- A compass locator installed at the site of the middle marker of an instrument landing system.

(See MIDDLE MARKER.)

(See ICAO term LOCATOR.)

COMPASS ROSE- A circle, graduated in degrees, printed on some charts or marked on the ground at an airport. It is used as a reference to either true or magnetic direction.

COMPOSITE FLIGHT PLAN- A flight plan which specifies VFR operation for one portion of flight and IFR for another portion. It is used primarily in military operations.

(Refer to AIM.)

COMPOSITE ROUTE SYSTEM- An organized oceanic route structure, incorporating reduced lateral spacing between routes, in which composite separation is authorized.

COMPOSITE SEPARATION- A method of separating aircraft in a composite route system where, by management of route and altitude assignments, a combination of half the lateral minimum specified for the area concerned and half the vertical minimum is applied.

COMPULSORY REPORTING POINTS- Reporting points which must be reported to ATC. They are designated on aeronautical charts by solid triangles or filed in a flight plan as fixes selected to define direct routes. These points are geographical locations which are defined by navigation aids/fixes. Pilots should discontinue position reporting over compulsory reporting points when informed by ATC that their aircraft is in "radar contact."

CONFLICT ALERT- A function of certain air traffic control automated systems designed to alert radar controllers to existing or pending situations between tracked targets (known IFR or VFR aircraft) that require his/her immediate attention/action.

(See MODE C INTRUDER ALERT.)

CONFLICT RESOLUTION- The resolution of potential conflictions between aircraft that are radar identified and in communication with ATC by ensuring that

radar targets do not touch. Pertinent traffic advisories shall be issued when this procedure is applied.

Note: This procedure shall not be provided utilizing mosaic radar systems.

CONFORMANCE- The condition established when an aircraft's actual position is within the conformance region constructed around that aircraft at its position, according to the trajectory associated with the aircraft's Current Plan.

CONFORMANCE REGION- A volume, bounded laterally, vertically, and longitudinally, within which an aircraft must be at a given time in order to be in conformance with the Current Plan Trajectory for that aircraft. At a given time, the conformance region is determined by the simultaneous application of the lateral, vertical, and longitudinal conformance bounds for the aircraft at the position defined by time and aircraft's trajectory.

CONSOLAN- A low frequency, long-distance NAVAID used principally for transoceanic navigations.

CONTACT-

a. Establish communication with (followed by the name of the facility and, if appropriate, the frequency to be used).

b. A flight condition wherein the pilot ascertains the attitude of his aircraft and navigates by visual reference to the surface.

(See CONTACT APPROACH.)

(See RADAR CONTACT.)

CONTACT APPROACH- An approach wherein an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least 1 mile flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least 1 statute mile.

(Refer to AIM.)

CONTAMINATED RUNWAY- A runway is considered contaminated whenever standing water, ice, snow, slush, frost in any form, heavy rubber, or other substances are present. A runway is contaminated with respect to rubber deposits or other friction-degrading substances when the average friction value for any 500-foot segment of the runway within the ALD fails below the recommended minimum friction level and the average friction value in the adjacent 500-foot segments falls below the maintenance planning friction level.

CONTERMINOUS U.S.- The 48 adjoining States and the District of Columbia.

CONTINENTAL UNITED STATES- The 49 States located on the continent of North America and the District of Columbia.

CONTINUE- When used as a control instruction should be followed by another word or words clarifying what is expected of the pilot. Example: "continue taxi", "continue descent", "continue inbound" etc.

CONTROL AREA [ICAO]- A controlled airspace extending upwards from a specified limit above the earth.

CONTROLLED AIRSPACE- An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

a. Controlled airspace is a generic term that covers Class A, Class B, Class C, Class D, and Class E airspace.

b. Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements in FAR Part 91 (for specific operating requirements, please refer to FAR Part 91). For IFR operations in any class of controlled airspace, a pilot must file an IFR flight plan and receive an appropriate ATC clearance. Each Class B, Class C, and Class D airspace area designated for an airport contains at least one primary airport around which the airspace is designated (for specific designations and descriptions of the airspace classes, please refer to FAR Part 71).

c. Controlled airspace in the United States is designated as follows:

1. CLASS A- Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska. Unless otherwise authorized, all persons must operate their aircraft under IFR.

2. CLASS B- Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspaces areas resemble upside-down wedding

cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is "clear of clouds."

3. CLASS C- Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 nautical mile (NM) radius, an outer circle with a 10NM radius that extends from 1,200 feet to 4,000 feet above the airport elevation and an outer area. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace. VFR aircraft are only separated from IFR aircraft within the airspace.

(See OUTER AREA)

4. CLASS D- Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.

5. CLASS E- Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Also in this class are Federal airways, airspace beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment, en route domestic, and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 MSL over the United States, including that airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska, up to, but not including 18,000 feet MSL, and the airspace above FL 600.

CONTROLLED AIRSPACE [ICAO]- An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

(Note: Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D, and E.)

CONTROLLED DEPARTURE TIME PROGRAMS- These programs are the flow control process whereby aircraft are held on the ground at the departure airport when delays are projected to occur in either the en route system or the terminal of intended landing. The purpose of these programs is to reduce congestion in the air traffic system or to limit the duration of airborne holding in the arrival center or terminal area. A CDT is a specific departure slot shown on the flight plan as an expected departure clearance time (EDCT).

CONTROLLED TIME OF ARRIVAL- The original estimated time of arrival adjusted by the ATCSCC ground delay factor.

CONTROLLER-

(See AIR TRAFFIC CONTROL SPECIALIST.)

CONTROLLER [ICAO]- A person authorized to provide air traffic control services.

CONTROL SECTOR- An airspace area of defined horizontal and vertical dimensions for which a controller or group of controllers has air traffic control responsibility, normally within an air route traffic control center or an approach control facility. Sectors are established based on predominant traffic flows, altitude strata, and controller workload. Pilot-communications during operations within a sector are normally maintained on discrete frequencies assigned to the sector.

(See DISCRETE FREQUENCY.)

CONTROL SLASH- A radar beacon slash representing the actual position of the associated aircraft. Normally, the control slash is the one closest to the interrogating radar beacon site. When ARTCC radar is

operating in narrowband (digitized) mode, the control slash is converted to a target symbol.

CONVECTIVE SIGMET- A weather advisory concerning convective weather significant to the safety of all aircraft. Convective SIGMET's are issued for tornadoes, lines of thunderstorms, embedded thunderstorms of any intensity level, areas of thunderstorms greater than or equal to VIP level 4 with an area coverage of $^{4}/_{10}$ (40%) or more, and hail $^{3}/_{4}$ inch or greater.

(See AWW.)

(See SIGMET.)

(See CWA.)

(See AIRMET.)

(Refer to AIM.)

CONVECTIVE SIGNIFICANT METEOROLOGICAL INFORMATION-

(See CONVECTIVE SIGMET.)

COORDINATES- The intersection of lines of reference, usually expressed in degrees/minutes/seconds of latitude and longitude, used to determine position or location.

COORDINATION FIX- The fix in relation to which facilities will handoff, transfer control of an aircraft, or coordinate flight progress data. For terminal facilities, it may also serve as a clearance for arriving aircraft.

COPTER- (See HELICOPTER.)

CORRECTION- An error has been made in the transmission and the correct version follows.

COUPLED APPROACH- A coupled approach is an instrument approach performed by the aircraft autopilot which is receiving position information and/or steering commands from onboard navigation equipment. In general, coupled nonprecision approaches must be discontinued and flown manually at altitudes lower than 50 feet below the minimum descent altitude, and coupled precision approaches must be flown manually below 50 feet AGL.

(See AUTOLAND APPROACH.)

Note: Coupled and autoland approaches are flown in VFR and IFR. It is common for carriers to require their crews to fly coupled approaches and autoland approaches (if certified) when the weather conditions are less than approximately 4,000 RVR.

COURSE-

a. The intended direction of flight in the horizontal plane measured in degrees from north.

b. The ILS localizer signal pattern usually specified as the front course or the back course.

c. The intended track along a straight, curved, or segmented MLS path.

(See BEARING.)

(See RADIAL.)

(See INSTRUMENT LANDING SYSTEM.)

(See MICROWAVE LANDING SYSTEM.)

CPL [ICAO]-

(See ICAO term CURRENT FLIGHT PLAN)

CRITICAL ENGINE- The engine which, upon failure, would most adversely affect the performance or handling qualities of an aircraft.

CROSS (FIX) AT (ALTITUDE)- Used by ATC when a specific altitude restriction at a specified fix is required.

CROSS (FIX) AT OR ABOVE (ALTITUDE)- Used by ATC when an altitude restriction at a specified fix is required. It does not prohibit the aircraft from crossing the fix at a higher altitude than specified; however, the higher altitude may not be one that will violate a succeeding altitude restriction or altitude assignment.

(See ALTITUDE RESTRICTION.)

(Refer to AIM.)

CROSS (FIX) AT OR BELOW (ALTITUDE)- Used by ATC when a maximum crossing altitude at a specific fix is required. It does not prohibit the aircraft from crossing the fix at a lower altitude; however, it must be at or above the minimum IFR altitude.

(See MINIMUM IFR ALTITUDES.)

(See ALTITUDE RESTRICTION.)

(Refer to FAR Part 91.)

CROSSWIND-

a. When used concerning the traffic pattern, the word means "crosswind leg."

(See TRAFFIC PATTERN.)

b. When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft.

(See CROSSWIND COMPONENT.)

CROSSWIND COMPONENT- The wind component measured in knots at 90 degrees to the longitudinal axis of the runway.

CRUISE- Used in an ATC clearance to authorize a pilot to conduct flight at any altitude from the minimum IFR altitude up to and including the altitude specified in the clearance. The pilot may level off at any intermediate altitude within this block of airspace. Climb/descent

within the block is to be made at the discretion of the pilot. However, once the pilot starts descent and verbally reports leaving an altitude in the block, he may not return to that altitude without additional ATC clearance. Further, it is approval for the pilot to proceed to and make an approach at destination airport and can be used in conjunction with:

a. An airport clearance limit at locations with a standard/special instrument approach procedure. The FAR's require that if an instrument letdown to an airport is necessary, the pilot shall make the letdown in accordance with a standard/special instrument approach procedure for that airport, or

b. An airport clearance limit at locations that are within/below/outside controlled airspace and without a standard/special instrument approach procedure. Such a clearance is NOT AUTHORIZATION for the pilot to descend under IFR conditions below the applicable minimum IFR altitude nor does it imply that ATC is exercising control over aircraft in Class G airspace; however, it provides a means for the aircraft to proceed to destination airport, descend, and land in accordance with applicable FAR's governing VFR flight operations. Also, this provides search and rescue protection until such time as the IFR flight plan is closed.

(See INSTRUMENT APPROACH PROCEDURE.)

CRUISE CLIMB- A climb technique employed by aircraft, usually at a constant power setting, resulting in an increase of altitude as the aircraft weight decreases.

CRUISING ALTITUDE- An altitude or flight level maintained during en route level flight. This is a constant altitude and should not be confused with a cruise clearance.

(See ALTITUDE.)

(See ICAO term CRUISING LEVEL.)

CRUISING LEVEL-

(See CRUISING ALTITUDE.)

CRUISING LEVEL [ICAO]- A level maintained during a significant portion of a flight.

CT MESSAGE- An EDCT time generated by the ATCSCC to regulate traffic at arrival airports. Normally, a CT message is automatically transferred from the Traffic Management System computer to the NAS en route computer and appears as an EDCT. In the event of a communication failure between the TMS and the NAS, the CT message can be manually entered by the TMC at the en route facility.

CTA-

(See CONTROLLED TIME OF ARRIVAL.)

(See CONTROL AREA [ICAO].)

CTAF-

(See COMMON TRAFFIC ADVISORY FREQUENCY.)

CTRD-

(See CERTIFIED TOWER RADAR DISPLAY.)

CURRENT FLIGHT PLAN [ICAO]- The flight plan, including changes, if any, brought about by subsequent clearances.

CURRENT PLAN- The ATC clearance the aircraft has received and is expected to fly.

CVFP APPROACH-

(See CHARTED VISUAL FLIGHT PROCEDURE APPROACH.)

CWA-

(See CENTER WEATHER ADVISORY and WEATHER ADVISORY.)

G

GATE HOLD PROCEDURES- Procedures at selected airports to hold aircraft at the gate or other ground location whenever departure delays exceed or are anticipated to exceed 15 minutes. The sequence for departure will be maintained in accordance with initial call-up unless modified by flow control restrictions. Pilots should monitor the ground control/clearance delivery frequency for engine start/taxi advisories or new proposed start/taxi time if the delay changes.

(See FLOW CONTROL.)

GCA-

(See GROUND CONTROLLED APPROACH.)

GENERAL AVIATION- That portion of civil aviation which encompasses all facets of aviation except air carriers holding a certificate of public convenience and necessity from the Civil Aeronautics Board and large aircraft commercial operators.

(See ICAO term GENERAL AVIATION.)

GENERAL AVIATION [ICAO]- All civil aviation operations other than scheduled air services and nonscheduled air transport operations for remuneration or hire.

GEO MAP- The digitized map markings associated with the ASR-9 Radar System.

GLIDEPATH-

(See GLIDESLOPE.)

GLIDEPATH INTERCEPT ALTITUDE-

(See GLIDESLOPE INTERCEPT ALTITUDE.)

GLIDESLOPE- Provides vertical guidance for aircraft during approach and landing. The glideslope/glidepath is based on the following:

a. Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS/MLS, or

b. Visual ground aids, such as VASI, which provide vertical guidance for a VFR approach or for the visual portion of an instrument approach and landing.

c. PAR. Used by ATC to inform an aircraft making a PAR approach of its vertical position (elevation) relative to the descent profile.

(See ICAO term GLIDEPATH.)

GLIDEPATH [ICAO]- A descent profile determined for vertical guidance during a final approach.

GLIDESLOPE INTERCEPT ALTITUDE- The minimum altitude to intercept the glideslope/path on a precision approach. The intersection of the published intercept altitude with the glideslope/path, designated on Government charts by the lightning bolt symbol, is the precision FAF; however, when the approach chart shows an alternative lower glideslope intercept altitude, and ATC directs a lower altitude, the resultant lower intercept position is then the FAF.

(See FINAL APPROACH FIX.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

GLOBAL POSITIONING SYSTEM (GPS)- A space-base radio positioning, navigation, and time-transfer system. The system provides highly accurate position and velocity information, and precise time, on a continuous global basis, to an unlimited number of properly equipped users. The system is unaffected by weather, and provides a worldwide common grid reference system. The GPS concept is predicated upon accurate and continuous knowledge of the spatial position of each satellite in the system with respect to time and distance from a transmitting satellite to the user. The GPS receiver automatically selects appropriate signals from the satellites in view and translates these into three-dimensional position, velocity, and time. System accuracy for civil users is normally 100 meters horizontally.

GO AHEAD- Proceed with your message. Not to be used for any other purpose.

GO AROUND- Instructions for a pilot to abandon his approach to landing. Additional instructions may follow. Unless otherwise advised by ATC, a VFR aircraft or an aircraft conducting visual approach should overfly the runway while climbing to traffic pattern altitude and enter the traffic pattern via the crosswind leg. A pilot on an IFR flight plan making an instrument approach should execute the published missed approach procedure or proceed as instructed by ATC; e.g., "Go around" (additional instructions if required).

(See LOW APPROACH.)

(See MISSED APPROACH.)

GPD-

(See GRAPHIC PLAN DISPLAY.)

GPS-
(See GLOBAL POSITIONING SYSTEM.)

GRAPHIC PLAN DISPLAY (GPD)- A view available with URET CCLD that provides a graphic display of aircraft, traffic, and notification of predicted conflicts. Graphic routes for Current Plans and Trial Plans are displayed upon controller request.
(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

GROUND CLUTTER- A pattern produced on the radar scope by ground returns which may degrade other radar returns in the affected area. The effect of ground clutter is minimized by the use of moving target indicator (MTI) circuits in the radar equipment resulting in a radar presentation which displays only targets which are in motion.
(See CLUTTER.)

GROUND COMMUNICATION OUTLET (GCO)- An unstaffed, remotely controlled, ground/ground communications facility. Pilots at uncontrolled airports may contact ATC and FSS via VHF to a telephone connection to obtain an instrument clearance or close a VFR or IFR flight plan. They may also get an updated weather briefing prior to take-off. Pilots will use four "key clicks" on the VHF radio to contact the appropriate ATC facility or six "key clicks " to contact the FSS. The GCO system is intended to be used only on the ground.

GROUND CONTROLLED APPROACH- A radar approach system operated from the ground by air traffic control personnel transmitting instructions to the pilot by radio. The approach may be conducted with surveillance radar (ASR) only or with both surveillance and precision approach radar (PAR). Usage of the term "GCA" by pilots is discouraged except when referring to a GCA facility. Pilots should specifically request a "PAR" approach when a precision radar approach is desired or request an "ASR" or "surveillance" approach when a nonprecision radar approach is desired.
(See RADAR APPROACH.)

GROUND DELAY- The amount of delay attributed to ATC, encountered prior to departure, usually associated with a CDT program.

GROUND SPEED- The speed of an aircraft relative to the surface of the earth.

GROUND STOP- Normally, the last initiative to be utilized; this method mandates that the terminal facility will not allow any departures to enter the ARTCC airspace until further notified.

GROUND VISIBILITY-
(See VISIBILITY.)

P

P TIME-
(See PROPOSED DEPARTURE TIME.)

PAN-PAN- The international radio-telephony urgency signal. When repeated three times, indicates uncertainty or alert followed by the nature of the urgency.
(See MAYDAY.)
(Refer to AIM.)

PAR-
(See PRECISION APPROACH RADAR.)

PAR [ICAO]-
(See ICAO Term PRECISION APPROACH RADAR.)

PARALLEL ILS APPROACHES- Approaches to parallel runways by IFR aircraft which, when established inbound toward the airport on the adjacent final approach courses, are radar-separated by at least 2 miles.
(See FINAL APPROACH COURSE.)
(See SIMULTANEOUS ILS APPROACHES.)

PARALLEL MLS APPROACHES-
(See PARALLEL ILS APPROACHES.)

PARALLEL OFFSET ROUTE- A parallel track to the left or right of the designated or established airway/route. Normally associated with Area Navigation (RNAV) operations.
(See AREA NAVIGATION.)

PARALLEL RUNWAYS- Two or more runways at the same airport whose centerlines are parallel. In addition to runway number, parallel runways are designated as L (left) and R (right) or, if three parallel runways exist, L (left), C (center), and R (right).

PBCT-
(See PROPOSED BOUNDARY CROSSING TIME.)

PERMANENT ECHO- Radar signals reflected from fixed objects on the earth's surface; e.g., buildings, towers, terrain. Permanent echoes are distinguished from "ground clutter" by being definable locations rather than large areas. Under certain conditions they may be used to check radar alignment.

PHOTO RECONNAISSANCE- Military activity that requires locating individual photo targets and navigating to the targets at a preplanned angle and altitude. The activity normally requires a lateral route width of 16 NM and altitude range of 1,500 feet to 10,000 feet AGL.

PIDP-
(See PROGRAMMABLE INDICATOR DATA PROCESSOR.)

PILOT BRIEFING- A service provided by the FSS to assist pilots in flight planning. Briefing items may include weather information, NOTAMS, military activities, flow control information, and other items as requested.
(Refer to AIM.)

PILOT IN COMMAND- The pilot responsible for the operation and safety of an aircraft during flight time.
(Refer to FAR Part 91.)

PILOT'S DISCRETION- When used in conjunction with altitude assignments, means that ATC has offered the pilot the option of starting climb or descent whenever he wishes and conducting the climb or descent at any rate he wishes. He may temporarily level off at any intermediate altitude. However, once he has vacated an altitude, he may not return to that altitude.

PILOT WEATHER REPORT- A report of meteorological phenomena encountered by aircraft in flight.
(Refer to AIM.)

PIREP-
(See PILOT WEATHER REPORT.)

PLANS DISPLAY- A display available in URET CCLD that provides detailed flight plan and predicted conflict information in textual format for requested Current Plans and all Trial Plans.
(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

POINT OUT-
(See RADAR POINT OUT.)

POLAR TRACK STRUCTURE- A system of organized routes between Iceland and Alaska which overlie Canadian MNPS Airspace.

POSITION REPORT- A report over a known location as transmitted by an aircraft to ATC.
(Refer to AIM.)

POSITION SYMBOL- A computer-generated indication shown on a radar display to indicate the mode of tracking.

POSITIVE CONTROL- The separation of all air traffic within designated airspace by air traffic control.

PRACTICE INSTRUMENT APPROACH- An instrument approach procedure conducted by a VFR or an IFR aircraft for the purpose of pilot training or proficiency demonstrations.

PREARRANGED COORDINATION- A standardized procedure which permits an air traffic controller to enter the airspace assigned to another air traffic controller without verbal coordination. The procedures are defined in a facility directive which ensures standard separation between aircraft.

PRECIPITATION- Any or all forms of water particles (rain, sleet, hail, or snow) that fall from the atmosphere and reach the surface.

PRECISION APPROACH-

(See PRECISION APPROACH PROCEDURE.)

PRECISION APPROACH PROCEDURE- A standard instrument approach procedure in which an electronic glideslope/glidepath is provided; e.g., ILS/MLS and PAR.

(See INSTRUMENT LANDING SYSTEM.)

(See MICROWAVE LANDING SYSTEM.)

(See PRECISION APPROACH RADAR.)

PRECISION APPROACH RADAR- Radar equipment in some ATC facilities operated by the FAA and/or the military services at joint-use civil/military locations and separate military installations to detect and display azimuth, elevation, and range of aircraft on the final approach course to a runway. This equipment may be used to monitor certain nonradar approaches, but is primarily used to conduct a precision instrument approach (PAR) wherein the controller issues guidance instructions to the pilot based on the aircraft's position in relation to the final approach course (azimuth), the glidepath (elevation), and the distance (range) from the touchdown point on the runway as displayed on the radar scope.

(Note: The abbreviation "PAR" is also used to denote preferential arrival routes in ARTCC computers).

(See GLIDEPATH.)

(See PAR.)

(See PREFERENTIAL ROUTES.)

(See ICAO term PRECISION APPROACH RADAR.)

(Refer to AIM.)

PRECISION APPROACH RADAR [ICAO]- Primary radar equipment used to determine the position of an aircraft during final approach, in terms of lateral and vertical deviations relative to a nominal approach path, and in range relative to touchdown.

Note: Precision approach radars are designed to enable pilots of aircraft to be given guidance by radio communication during the final stages of the approach to land.

PRECISION RUNWAY MONITOR (PRM)- Provides air traffic controllers with high precision secondary surveillance data for aircraft on final approach to parallel runways that have extended centerlines separated by less than 4,300 feet. High resolution color monitoring displays (FMA) are required to present surveillance track data to controllers along with detailed maps depicting approaches and no transgression zone.

PREFERENTIAL ROUTES- Preferential routes (PDR's, PAR's, and PDAR's) are adapted in ARTCC computers to accomplish inter/intrafacility controller coordination and to assure that flight data is posted at the proper control positions. Locations having a need for these specific inbound and outbound routes normally publish such routes in local facility bulletins, and their use by pilots minimizes flight plan route amendments. When the workload or traffic situation permits, controllers normally provide radar vectors or assign requested routes to minimize circuitous routing. Preferential routes are usually confined to one ARTCC's area and are referred to by the following names or acronyms:

a. Preferential Departure Route (PDR). A specific departure route from an airport or terminal area to an en route point where there is no further need for flow

control. It may be included in an Instrument Departure Procedure (DP) or a Preferred IFR Route.

b. Preferential Arrival Route (PAR). A specific arrival route from an appropriate en route point to an airport or terminal area. It may be included in a Standard Terminal Arrival (STAR) or a Preferred IFR Route. The abbreviation "PAR" is used primarily within the ARTCC and should not be confused with the abbreviation for Precision Approach Radar.

c. Preferential Departure and Arrival Route (PDAR). A route between two terminals which are within or immediately adjacent to one ARTCC's area. PDAR's are not synonymous with Preferred IFR Routes but may be listed as such as they do accomplish essentially the same purpose.

(See PREFERRED IFR ROUTES.)

(See NAS STAGE A.)

PREFERRED IFR ROUTES- Routes established between busier airports to increase system efficiency and capacity. They normally extend through one or more ARTCC areas and are designed to achieve balanced traffic flows among high density terminals. IFR clearances are issued on the basis of these routes except when severe weather avoidance procedures or other factors dictate otherwise. Preferred IFR Routes are listed in the Airport/Facility Directory. If a flight is planned to or from an area having such routes but the departure or arrival point is not listed in the Airport/Facility Directory, pilots may use that part of a Preferred IFR Route which is appropriate for the departure or arrival point that is listed. Preferred IFR Routes are correlated with DP's and STAR's and may be defined by airways, jet routes, direct routes between NAVAID's, Waypoints, NAVAID radials/DME, or any combinations thereof.

(See INSTRUMENT DEPARTURE PROCEDURE.)

(See STANDARD TERMINAL ARRIVAL.)

(See PREFERENTIAL ROUTES.)

(See CENTER'S AREA.)

(Refer to AIRPORT/FACILITY DIRECTORY.)

(Refer to NOTICES TO AIRMEN PUBLICATION.)

PRE-FLIGHT PILOT BRIEFING-

(See PILOT BRIEFING.)

PREVAILING VISIBILITY-

(See VISIBILITY.)

PRM-

(See ILS PRM APPROACH and PRECISION RUNWAY MONITOR.)

PROCEDURE TURN- The maneuver prescribed when it is necessary to reverse direction to establish an aircraft on the intermediate approach segment or final approach course. The outbound course, direction of turn, distance within which the turn must be completed, and minimum altitude are specified in the procedure. However, unless otherwise restricted, the point at which the turn may be commenced and the type and rate of turn are left to the discretion of the pilot.

(See ICAO term PROCEDURE TURN.)

PROCEDURE TURN [ICAO]- A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.

Note 1: Procedure turns are designated "left" or "right" according to the direction of the initial turn.

Note 2: Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual approach procedure.

PROCEDURE TURN INBOUND- That point of a procedure turn maneuver where course reversal has been completed and an aircraft is established inbound on the intermediate approach segment or final approach course. A report of "procedure turn inbound" is normally used by ATC as a position report for separation purposes.

(See FINAL APPROACH COURSE.)

(See PROCEDURE TURN.)

(See SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE.)

PROFILE DESCENT- An uninterrupted descent (except where level flight is required for speed adjustment; e.g., 250 knots at 10,000 feet MSL) from cruising altitude/level to interception of a glideslope or to a minimum altitude specified for the initial or intermediate approach segment of a nonprecision instrument approach. The profile descent normally terminates at the approach gate or where the glideslope or other appropriate minimum altitude is intercepted.

PROGRAMMABLE INDICATOR DATA PROCESSOR- The PIDP is a modification to the AN/TPX-42 interrogator system currently installed in fixed RAPCON's. The PIDP detects, tracks, and predicts secondary radar aircraft targets. These are displayed by means of computer-generated symbols and alphanumeric characters depicting flight identification, aircraft altitude, ground speed, and flight plan data. Although primary radar targets are not tracked, they are displayed coincident with the secondary radar targets as well as

with the other symbols and alphanumerics. The system has the capability of interfacing with ARTCC's.

PROGRESS REPORT-
(See POSITION REPORT.)

PROGRESSIVE TAXI- Precise taxi instructions given to a pilot unfamiliar with the airport or issued in stages as the aircraft proceeds along the taxi route.

PROHIBITED AREA-
(See SPECIAL USE AIRSPACE.)
(See ICAO term PROHIBITED AREA.)

PROHIBITED AREA [ICAO]- An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

PROPOSED BOUNDARY CROSSING TIME- Each center has a PBCT parameter for each internal airport. Proposed internal flight plans are transmitted to the adjacent center if the flight time along the proposed route from the departure airport to the center boundary is less than or equal to the value of PBCT or if airport adaptation specifies transmission regardless of PBCT.

PROPOSED DEPARTURE TIME- The time a scheduled flight will depart the gate (scheduled operators) or the actual runway off time for nonscheduled operators. For EDCT purposes, the ATCSCC adjusts the "P" time for scheduled operators to reflect the runway off times.

PROTECTED AIRSPACE- The airspace on either side of an oceanic route/track that is equal to one-half the lateral separation minimum except where reduction of protected airspace has been authorized.

PT-
(See PROCEDURE TURN.)

PTS-
(See POLAR TRACK STRUCTURE.)

PUBLISHED ROUTE- A route for which an IFR altitude has been established and published; e.g., Federal Airways, Jet Routes, Area Navigation Routes, Specified Direct Routes.

by the pilot, to observe and note deviations from its authorized flight path, airway, or route. When being applied specifically to radar monitoring of instrument approaches; i.e., with precision approach radar (PAR) or radar monitoring of simultaneous ILS/MLS approaches, it includes advice and instructions whenever an aircraft nears or exceeds the prescribed PAR safety limit or simultaneous ILS/MLS no transgression zone.

(See ADDITIONAL SERVICES.)

(See TRAFFIC ADVISORIES.)

b. Radar Navigational Guidance- Vectoring aircraft to provide course guidance.

c. Radar Separation- Radar spacing of aircraft in accordance with established minima.

(See ICAO term RADAR SERVICE.)

RADAR SERVICE [ICAO]- Term used to indicate a service provided directly by means of radar.

a. Monitoring- The use of radar for the purpose of providing aircraft with information and advice relative to significant deviations from nominal flight path.

b. Separation- The separation used when aircraft position information is derived from radar sources.

RADAR SERVICE TERMINATED- Used by ATC to inform a pilot that he will no longer be provided any of the services that could be received while in radar contact. Radar service is automatically terminated, and the pilot is not advised in the following cases:

a. An aircraft cancels its IFR flight plan, except within Class B airspace, Class C airspace, a TRSA, or where Basic Radar service is provided.

b. An aircraft conducting an instrument, visual, or contact approach has landed or has been instructed to change to advisory frequency.

c. An arriving VFR aircraft, receiving radar service to a tower-controlled airport within Class B airspace, Class C airspace, a TRSA, or where sequencing service is provided, has landed; or to all other airports, is instructed to change to tower or advisory frequency.

d. An aircraft completes a radar approach.

RADAR SURVEILLANCE- The radar observation of a given geographical area for the purpose of performing some radar function.

RADAR TRAFFIC ADVISORIES- Advisories issued to alert pilots to known or observed radar traffic which may affect the intended route of flight of their aircraft.

(See TRAFFIC ADVISORIES.)

RADAR TRAFFIC INFORMATION SERVICE-

(See TRAFFIC ADVISORIES.)

RADAR VECTORING [ICAO]- Provision of navigational guidance to aircraft in the form of specific headings, based on the use of radar.

RADAR WEATHER ECHO INTENSITY LEVELS- Existing radar systems cannot detect turbulence. However, there is a direct correlation between the degree of turbulence and other weather features associated with thunderstorms and the radar weather echo intensity. The National Weather Service has categorized radar weather echo intensity for precipitation into six levels. These levels are sometimes expressed during communications as "VIP LEVEL" 1 through 6 (derived from the component of the radar that produces the information- Video Integrator and Processor). The following list gives the "VIP LEVELS" in relation to the precipitation intensity within a thunderstorm:

a. Level 1. WEAK

b. Level 2. MODERATE

c. Level 3. STRONG

d. Level 4. VERY STRONG

e. Level 5. INTENSE

f. Level 6. EXTREME

(See AC 00-45, Aviation Weather Services.)

RADIAL- A magnetic bearing extending from a VOR/VORTAC/TACAN navigation facility.

RADIO-

a. A device used for communication.

b. Used to refer to a flight service station; e.g., "Seattle Radio" is used to call Seattle FSS.

RADIO ALTIMETER- Aircraft equipment which makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the surface.

RADIO BEACON-

(See NONDIRECTIONAL BEACON.)

RADIO DETECTION AND RANGING-

(See RADAR.)

RADIO MAGNETIC INDICATOR- An aircraft navigational instrument coupled with a gyro compass or similar compass that indicates the direction of a selected NAVAID and indicates bearing with respect to the heading of the aircraft.

RAMP-

(See APRON.)

RANDOM ALTITUDE- An altitude inappropriate for direction of flight and/or not in accordance with

FAAO 7110.65, Para 4-5-1, VERTICAL SEPARATION MINIMA.

RANDOM ROUTE- Any route not established or charted/published or not otherwise available to all users.

RC-
(See ROAD RECONNAISSANCE.)

RCAG-
(See REMOTE COMMUNICATIONS AIR/GROUND FACILITY.)

RCC-
(See RESCUE COORDINATION CENTER.)

RCO-
(See REMOTE COMMUNICATIONS OUTLET.)

RCR-
(See RUNWAY CONDITION READING.)

READ BACK- Repeat my message back to me.

RECEIVER AUTONOMOUS INTEGRITY MONITORING (RAIM)- A technique whereby a civil GNSS receiver/processor determines the integrity of the GNSS navigation signals without reference to sensors or non-DoD integrity systems other than the receiver itself. This determination is achieved by a consistency check among redundant pseudorange measurements.

RECEIVING CONTROLLER- A controller/facility receiving control of an aircraft from another controller/facility.

RECEIVING FACILITY-
(See RECEIVING CONTROLLER.)

RECONFORMANCE- The automated process of bringing an aircraft's Current Plan Trajectory into conformance with its track.

REDUCE SPEED TO (SPEED)-
(See SPEED ADJUSTMENT.)

REIL-
(See RUNWAY END IDENTIFIER LIGHTS.)

RELEASE TIME- A departure time restriction issued to a pilot by ATC (either directly or through an authorized relay) when necessary to separate a departing aircraft from other traffic.
(See ICAO term RELEASE TIME.)

RELEASE TIME [ICAO]- Time prior to which an aircraft should be given further clearance or prior to which it should not proceed in case of radio failure.

REMOTE COMMUNICATIONS AIR/GROUND FACILITY- An unmanned VHF/UHF transmitter/receiver facility which is used to expand ARTCC air/ground communications coverage and to facilitate direct contact between pilots and controllers. RCAG facilities are sometimes not equipped with emergency frequencies 121.5 MHz and 243.0 MHz.
(Refer to AIM.)

REMOTE COMMUNICATIONS OUTLET- An unmanned communications facility remotely controlled by air traffic personnel. RCO's serve FSS's. RTR's serve terminal ATC facilities. An RCO or RTR may be UHF or VHF and will extend the communication range of the air traffic facility. There are several classes of RCO's and RTR's. The class is determined by the number of transmitters or receivers. Classes A through G are used primarily for air/ground purposes. RCO and RTR class O facilities are nonprotected outlets subject to undetected and prolonged outages. RCO (O's) and RTR (O's) were established for the express purpose of providing ground-to-ground communications between air traffic control specialists and pilots located at a satellite airport for delivering en route clearances, issuing departure authorizations, and acknowledging instrument flight rules cancellations or departure/landing times. As a secondary function, they may be used for advisory purposes whenever the aircraft is below the coverage of the primary air/ground frequency.

REMOTE TRANSMITTER/RECEIVER-
(See REMOTE COMMUNICATIONS OUTLET.)

REPORT- Used to instruct pilots to advise ATC of specified information; e.g., "Report passing Hamilton VOR."

REPORTING POINT- A geographical location in relation to which the position of an aircraft is reported.
(See COMPULSORY REPORTING POINTS.)
(See ICAO term REPORTING POINT.)
(Refer to AIM.)

REPORTING POINT [ICAO]- A specified geographical location in relation to which the position of an aircraft can be reported.

REQUEST FULL ROUTE CLEARANCE- Used by pilots to request that the entire route of flight be read verbatim in an ATC clearance. Such request should be made to preclude receiving an ATC clearance based on

the original filed flight plan when a filed IFR flight plan has been revised by the pilot, company, or operations prior to departure.

REQUIRED NAVIGATION PERFORMANCE (RNP)– A statement of the navigational performance necessary for operation within a defined airspace. The following terms are commonly associated with RNP:

a. Required Navigation Performance Level or Type (RNP-X). A value, in nautical miles (NM), from the intended horizontal position within which an aircraft would be at least 95-percent of the total flying time.

b. Required Navigation Performance (RNP) Airspace. A generic term designating airspace, route (s), leg (s), operation (s), or procedure (s) where minimum required navigational performance (RNP) have been established.

c. Actual Navigation Performance (ANP). A measure of the current estimated navigational performance. Also referred to as Estimated Position Error (EPE).

d. Estimated Position Error (EPE). A measure of the current estimated navigational performance. Also referred to as Actual Navigation Performance (ANP).

e. Lateral Navigation (LNAV). A function of area navigation (RNAV) equipment which calculates, displays, and provides lateral guidance to a profile or path.

f. Vertical Navigation (VNAV). A function of area navigation (RNAV) equipment which calculates, displays, and provides vertical guidance to a profile or path.

RESCUE COORDINATION CENTER- A search and rescue (SAR) facility equipped and manned to coordinate and control SAR operations in an area designated by the SAR plan. The U.S. Coast Guard and the U.S. Air Force have responsibility for the operation of RCC's.

(See ICAO term RESCUE CO-ORDINATION CENTRE.)

RESCUE CO-ORDINATION CENTRE [ICAO]- A unit responsible for promoting efficient organization of search and rescue service and for coordinating the conduct of search and rescue operations within a search and rescue region.

RESOLUTION ADVISORY-A display indication given to the pilot by the traffic alert and collision avoidance systems (TCAS II) recommending a maneuver to increase vertical separation relative to an intruding aircraft. Positive, negative, and vertical speed limit (VSL) advisories constitute the resolution advisories. A resolution advisory is also classified as corrective or preventive

RESTRICTED AREA-

(See SPECIAL USE AIRSPACE.)

(See ICAO term RESTRICTED AREA.)

RESTRICTED AREA [ICAO]- An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

RESUME OWN NAVIGATION- Used by ATC to advise a pilot to resume his own navigational responsibility. It is issued after completion of a radar vector or when radar contact is lost while the aircraft is being radar vectored.

(See RADAR CONTACT LOST.)

(See RADAR SERVICE TERMINATED.)

RESUME NORMAL SPEED- Used by ATC to advise a pilot that previously issued speed control restrictions are deleted. An instruction to "resume normal speed" does not delete speed restrictions that are applicable to published procedures of upcoming segments of flight, unless specifically stated by ATC. This does not relieve the pilot of those speed restrictions which are applicable to FAR 91.117.

RMI-

(See RADIO MAGNETIC INDICATOR.)

RNAV-

(See AREA NAVIGATION.)

(See ICAO Term AREA NAVIGATION.)

RNAV APPROACH- An instrument approach procedure which relies on aircraft area navigation equipment for navigational guidance.

(See AREA NAVIGATION.)

(See INSTRUMENT APPROACH PROCEDURE.)

ROAD RECONNAISSANCE- Military activity requiring navigation along roads, railroads, and rivers. Reconnaissance route/route segments are seldom along a straight line and normally require a lateral route width of 10 NM to 30 NM and an altitude range of 500 feet to 10,000 feet AGL.

ROGER- I have received all of your last transmission. It should not be used to answer a question requiring a yes or a no answer.

(See AFFIRMATIVE.)

(See NEGATIVE.)

ROLLOUT RVR-

(See VISIBILITY.)

ROUTE- A defined path, consisting of one or more courses in a horizontal plane, which aircraft traverse over the surface of the earth.

(See AIRWAY.)

(See JET ROUTE.)

(See PUBLISHED ROUTE.)

(See UNPUBLISHED ROUTE.)

ROUTE ACTION NOTIFICATION- URET CCLD notification that a PAR/PDR/PDAR has been applied to the flight plan.

(See ATC PREFERRED ROUTE NOTIFICATION.)

(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

ROUTE SEGMENT- As used in Air Traffic Control, a part of a route that can be defined by two navigational fixes, two NAVAID's, or a fix and a NAVAID.

(See FIX.)

(See ROUTE.)

(See ICAO term ROUTE SEGMENT.)

ROUTE SEGMENT [ICAO]- A portion of a route to be flown, as defined by two consecutive significant points specified in a flight plan.

RSA-

(See RUNWAY SAFETY AREA.)

RTR-

(See REMOTE TRANSMITTER/RECEIVER.)

RUNWAY- A defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length. Runways are normally numbered in relation to their magnetic direction rounded off to the nearest 10 degrees; e.g., Runway 1, Runway 25.

(See PARALLEL RUNWAYS.)

(See ICAO term RUNWAY.)

RUNWAY [ICAO]- A defined rectangular area on a land aerodrome prepared for the landing and takeoff of aircraft.

RUNWAY CENTERLINE LIGHTING-

(See AIRPORT LIGHTING.)

RUNWAY CONDITION READING- Numerical decelerometer readings relayed by air traffic controllers at USAF and certain civil bases for use by the pilot in determining runway braking action. These readings are routinely relayed only to USAF and Air National Guard Aircraft.

(See BRAKING ACTION.)

RUNWAY END IDENTIFIER LIGHTS-

(See AIRPORT LIGHTING.)

RUNWAY GRADIENT- The average slope, measured in percent, between two ends or points on a runway. Runway gradient is depicted on Government aerodrome sketches when total runway gradient exceeds 0.3%.

RUNWAY HEADING- The magnetic direction that corresponds with the runway centerline extended, not the painted runway number. When cleared to "fly or maintain runway heading," pilots are expected to fly or maintain the heading that corresponds with the extended centerline of the departure runway. Drift correction shall not be applied; e.g., Runway 4, actual magnetic heading of the runway centerline 044, fly 044.

RUNWAY IN USE/ACTIVE RUNWAY/DUTY RUNWAY- Any runway or runways currently being used for takeoff or landing. When multiple runways are used, they are all considered active runways. In the metering sense, a selectable adapted item which specifies the landing runway configuration or direction of traffic flow. The adapted optimum flight plan from each transition fix to the vertex is determined by the runway configuration for arrival metering processing purposes.

RUNWAY LIGHTS-

(See AIRPORT LIGHTING.)

RUNWAY MARKINGS-

(See AIRPORT MARKING AIDS.)

RUNWAY OVERRUN- In military aviation exclusively, a stabilized or paved area beyond the end of a runway, of the same width as the runway plus shoulders, centered on the extended runway centerline.

RUNWAY PROFILE DESCENT- An instrument flight rules (IFR) air traffic control arrival procedure to a runway published for pilot use in graphic and/or textual form and may be associated with a STAR. Runway Profile Descents provide routing and may depict crossing altitudes, speed restrictions, and headings to be flown from the en route structure to the point where the pilot will receive clearance for and execute an instrument approach procedure. A Runway Profile Descent may apply to more than one runway if so stated on the chart.

(Refer to AIM.)

RUNWAY SAFETY AREA- A defined surface surrounding the runway prepared, or suitable, for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion

from the runway. The dimensions of the RSA vary and can be determined by using the criteria contained within AC 150/5300-13, Airport Design, Chapter 3. Figure 3-1 in AC 150/5300-13 depicts the RSA. The design standards dictate that the RSA shall be:

a. Cleared, graded, and have no potentially hazardous ruts, humps, depressions, or other surface variations;

b. Drained by grading or storm sewers to prevent water accumulation;

c. Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and,

d. Free of objects, except for objects that need to be located in the runway safety area because of their function. These objects shall be constructed on low impact resistant supports (frangible mounted structures) to the lowest practical height with the frangible point no higher than 3 inches above grade.

(Refer to AC 150/5300-13, Airport Design, Chapter 3.)

RUNWAY USE PROGRAM- A noise abatement runway selection plan designed to enhance noise abatement efforts with regard to airport communities for arriving and departing aircraft. These plans are developed into runway use programs and apply to all turbojet aircraft 12,500 pounds or heavier; turbojet aircraft less than 12,500 pounds are included only if the airport proprietor determines that the aircraft creates a noise problem. Runway use programs are coordinated with FAA offices, and safety criteria used in these programs are developed by the Office of Flight Operations. Runway use programs are administered by the Air Traffic Service as "Formal" or "Informal" programs.

a. Formal Runway Use Program- An approved noise abatement program which is defined and acknowledged in a Letter of Understanding between Flight Operations, Air Traffic Service, the airport proprietor, and the users. Once established, participation in the program is mandatory for aircraft operators and pilots as provided for in FAR Part 91.129.

b. Informal Runway Use Program- An approved noise abatement program which does not require a Letter of Understanding, and participation in the program is voluntary for aircraft operators/pilots.

RUNWAY VISIBILITY VALUE-

(See VISIBILITY.)

RUNWAY VISUAL RANGE-

(See VISIBILITY.)

S

SAA-
(See SPECIAL ACTIVITY AIRSPACE.)

SAFETY ALERT- A safety alert issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain, obstructions, or other aircraft. The controller may discontinue the issuance of further alerts if the pilot advises he is taking action to correct the situation or has the other aircraft in sight.

a. Terrain/Obstruction Alert- A safety alert issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain/obstructions; e.g., "Low Altitude Alert, check your altitude immediately."

b. Aircraft Conflict Alert- A safety alert issued by ATC to aircraft under their control if ATC is aware of an aircraft that is not under their control at an altitude which, in the controller's judgment, places both aircraft in unsafe proximity to each other. With the alert, ATC will offer the pilot an alternate course of action when feasible; e.g., "Traffic Alert, advise you turn right heading zero niner zero or climb to eight thousand immediately."

The issuance of a safety alert is contingent upon the capability of the controller to have an awareness of an unsafe condition. The course of action provided will be predicated on other traffic under ATC control. Once the alert is issued, it is solely the pilot's prerogative to determine what course of action, if any, he will take.

SAIL BACK- A maneuver during high wind conditions (usually with power off) where float plane movement is controlled by water rudders/opening and closing cabin doors.

SAME DIRECTION AIRCRAFT- Aircraft are operating in the same direction when:

a. They are following the same track in the same direction; or

b. Their tracks are parallel and the aircraft are flying in the same direction; or

c. Their tracks intersect at an angle of less than 45 degrees.

SAR-
(See SEARCH AND RESCUE.)

SAY AGAIN- Used to request a repeat of the last transmission. Usually specifies transmission or portion thereof not understood or received; e.g., "Say again all after ABRAM VOR."

SAY ALTITUDE- Used by ATC to ascertain an aircraft's specific altitude/flight level. When the aircraft is climbing or descending, the pilot should state the indicated altitude rounded to the nearest 100 feet.

SAY HEADING- Used by ATC to request an aircraft heading. The pilot should state the actual heading of the aircraft.

SDF-
(See SIMPLIFIED DIRECTIONAL FACILITY.)

SEA LANE- A designated portion of water outlined by visual surface markers for and intended to be used by aircraft designed to operate on water.

SEARCH AND RESCUE- A service which seeks missing aircraft and assists those found to be in need of assistance. It is a cooperative effort using the facilities and services of available Federal, state and local agencies. The U.S. Coast Guard is responsible for coordination of search and rescue for the Maritime Region, and the U.S. Air Force is responsible for search and rescue for the Inland Region. Information pertinent to search and rescue should be passed through any air traffic facility or be transmitted directly to the Rescue Coordination Center by telephone.
(See FLIGHT SERVICE STATION.)
(See RESCUE COORDINATION CENTER.)
(Refer to AIM.)

SEARCH AND RESCUE FACILITY- A facility responsible for maintaining and operating a search and rescue (SAR) service to render aid to persons and property in distress. It is any SAR unit, station, NET, or other operational activity which can be usefully employed during an SAR Mission; e.g., a Civil Air Patrol Wing, or a Coast Guard Station.
(See SEARCH AND RESCUE.)

SECTIONAL AERONAUTICAL CHARTS-
(See AERONAUTICAL CHART.)

SECTOR LIST DROP INTERVAL- A parameter number of minutes after the meter fix time when arrival aircraft will be deleted from the arrival sector list.

SEE AND AVOID- When weather conditions permit, pilots operating IFR or VFR are required to observe and maneuver to avoid other aircraft. Right-of-way rules are contained in FAR Part 91.

SEGMENTED CIRCLE- A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.
(Refer to AIM.)

SEGMENTS OF AN INSTRUMENT APPROACH PROCEDURE- An instrument approach procedure may have as many as four separate segments depending on how the approach procedure is structured.

a. Initial Approach- The segment between the initial approach fix and the intermediate fix or the point where the aircraft is established on the intermediate course or final approach course.
(See ICAO term INITIAL APPROACH SEGMENT.)

b. Intermediate Approach- The segment between the intermediate fix or point and the final approach fix.
(See ICAO term INTERMEDIATE APPROACH SEGMENT.)

c. Final Approach- The segment between the final approach fix or point and the runway, airport, or missed approach point.
(See ICAO term FINAL APPROACH SEGMENT.)

d. Missed Approach- The segment between the missed approach point or the point of arrival at decision height and the missed approach fix at the prescribed altitude.
(Refer to FAR Part 97.)
(See ICAO term MISSED APPROACH PROCEDURE.)

SELECTED GROUND DELAYS- A traffic management procedure whereby selected flights are issued ground delays to better regulate traffic flows over a particular fix or area.

SEPARATION- In air traffic control, the spacing of aircraft to achieve their safe and orderly movement in flight and while landing and taking off.
(See SEPARATION MINIMA.)
(See ICAO term SEPARATION.)

SEPARATION [ICAO]- Spacing between aircraft, levels or tracks.

SEPARATION MINIMA- The minimum longitudinal, lateral, or vertical distances by which aircraft are spaced through the application of air traffic control procedures.
(See SEPARATION.)

SERVICE- A generic term that designates functions or assistance available from or rendered by air traffic control. For example, Class C service would denote the ATC services provided within a Class C airspace area.

SEVERE WEATHER AVOIDANCE PLAN- An approved plan to minimize the affect of severe weather on traffic flows in impacted terminal and/or ARTCC areas. SWAP is normally implemented to provide the least disruption to the ATC system when flight through portions of airspace is difficult or impossible due to severe weather.

SEVERE WEATHER FORECAST ALERTS- Preliminary messages issued in order to alert users that a Severe Weather Watch Bulletin (WW) is being issued. These messages define areas of possible severe thunderstorms or tornado activity. The messages are unscheduled and issued as required by the National Severe Storm Forecast Center at Kansas City, Missouri.
(See AIRMET.)
(See SIGMET.)
(See CONVECTIVE SIGMET.)
(See CWA.)

SFA-
(See SINGLE FREQUENCY APPROACH.)

SFO-
(See SIMULATED FLAMEOUT.)

SHF-
(See SUPER HIGH FREQUENCY.)

SHORT RANGE CLEARANCE- A clearance issued to a departing IFR flight which authorizes IFR flight to a specific fix short of the destination while air traffic control facilities are coordinating and obtaining the complete clearance.

SHORT TAKEOFF AND LANDING AIRCRAFT AIRCRAFT- An aircraft which, at some weight within its approved operating weight, is capable of operating from a STOL runway in compliance with the applicable STOL characteristics, airworthiness, operations, noise, and pollution standards.
(See VERTICAL TAKEOFF AND LANDING AIRCRAFT.)

SIAP-
(See STANDARD INSTRUMENT APPROACH PROCEDURE.)

SIDESTEP MANEUVER- A visual maneuver accomplished by a pilot at the completion of an instrument approach to permit a straight-in landing on a parallel runway not more than 1,200 feet to either side of the runway to which the instrument approach was conducted.
(Refer to AIM.)

SIGMET- A weather advisory issued concerning weather significant to the safety of all aircraft. SIGMET advisories cover severe and extreme turbulence, severe icing, and widespread dust or sandstorms that reduce visibility to less than 3 miles.
(See AIRMET.)
(See AWW.)
(See CONVECTIVE SIGMET.)
(See CWA.)
(See ICAO term SIGMET INFORMATION.)
(Refer to AIM.)

SIGMET INFORMATION [ICAO]- Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations.

SIGNIFICANT METEOROLOGICAL INFORMATION-
(See SIGMET.)

SIGNIFICANT POINT- A point, whether a named intersection, a NAVAID, a fix derived from a NAVAID(s), or geographical coordinate expressed in degrees of latitude and longitude, which is established for the purpose of providing separation, as a reporting point, or to delineate a route of flight.

SIMPLIFIED DIRECTIONAL FACILITY- A NAVAID used for nonprecision instrument approaches. The final approach course is similar to that of an ILS localizer except that the SDF course may be offset from the runway, generally not more than 3 degrees, and the course may be wider than the localizer, resulting in a lower degree of accuracy.
(Refer to AIM.)

SIMULATED FLAMEOUT- A practice approach by a jet aircraft (normally military) at idle thrust to a runway. The approach may start at a runway (high key) and may continue on a relatively high and wide downwind leg with a continuous turn to final. It terminates in landing or low approach. The purpose of this approach is to simulate a flameout.
(See FLAMEOUT.)

SIMULTANEOUS ILS APPROACHES- An approach system permitting simultaneous ILS/MLS approaches to airports having parallel runways separated by at least 4,300 feet between centerlines. Integral parts of a total system are ILS/MLS, radar, communications, ATC procedures, and appropriate airborne equipment.
(See PARALLEL RUNWAYS.)
(Refer to AIM.)

SIMULTANEOUS MLS APPROACHES-
(See SIMULTANEOUS ILS APPROACHES.)

SINGLE DIRECTION ROUTES- Preferred IFR Routes which are sometimes depicted on high altitude en route charts and which are normally flown in one direction only.
(See PREFERRED IFR ROUTES.)
(Refer to AIRPORT/FACILITY DIRECTORY.)

SINGLE FREQUENCY APPROACH- A service provided under a letter of agreement to military single-piloted turbojet aircraft which permits use of a single UHF frequency during approach for landing. Pilots will not normally be required to change frequency from the beginning of the approach to touchdown except that pilots conducting an en route descent are required to change frequency when control is transferred from the air route traffic control center to the terminal facility. The abbreviation "SFA" in the DOD FLIP IFR Supplement under "Communications" indicates this service is available at an aerodrome.

SINGLE-PILOTED AIRCRAFT- A military turbojet aircraft possessing one set of flight controls, tandem cockpits, or two sets of flight controls but operated by one pilot is considered single-piloted by ATC when determining the appropriate air traffic service to be applied.
(See SINGLE FREQUENCY APPROACH.)

SLASH- A radar beacon reply displayed as an elongated target.

SLDI-
(See SECTOR LIST DROP INTERVAL.)

SLOT TIME-
(See METER FIX TIME/SLOT TIME.)

SLOW TAXI- To taxi a float plane at low power or low RPM.

SN-
(See SYSTEM STRATEGIC NAVIGATION.)

SPEAK SLOWER- Used in verbal communications as a request to reduce speech rate.

SPECIAL ACTIVITY AIRSPACE (SAA)- Any airspace with defined dimensions within the National Airspace System wherein limitations may be imposed upon aircraft operations. This airspace may be restricted areas, prohibited areas, military operations areas, air ATC assigned airspace, and any other designated airspace areas. The dimensions of this airspace are programmed into URET CCLD and can be designated as either active or inactive by screen entry. Aircraft trajectories are constantly tested against the dimensions of active areas and alerts issued to the applicable sectors when violations are predicted.

(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

SPECIAL EMERGENCY- A condition of air piracy or other hostile act by a person(s) aboard an aircraft which threatens the safety of the aircraft or its passengers.

SPECIAL INSTRUMENT APPROACH PROCEDURE-

(See INSTRUMENT APPROACH PROCEDURE.)

SPECIAL USE AIRSPACE- Airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Types of special use airspace are:

a. Alert Area- Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft. Alert Areas are depicted on aeronautical charts for the information of nonparticipating pilots. All activities within an Alert Area are conducted in accordance with Federal Aviation Regulations, and pilots of participating aircraft as well as pilots transiting the area are equally responsible for collision avoidance.

b. Controlled Firing Area- Airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons and property on the ground.

c. Military Operations Area (MOA)- A MOA is airspace established outside of Class A airspace area to separate or segregate certain nonhazardous military activities from IFR traffic and to identify for VFR traffic where these activities are conducted.

(Refer to AIM.)

d. Prohibited Area- Airspace designated under part 73 within which no person may operate an aircraft without the permission of the using agency.

(Refer to En Route Charts, AIM.)

e. Restricted Area- Airspace designated under FAR Part 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use and IFR/VFR operations in the area may be authorized by the controlling ATC facility when it is not being utilized by the using agency. Restricted areas are depicted on en route charts. Where joint use is authorized, the name of the ATC controlling facility is also shown.

(Refer to FAR Part 73.)

(Refer to AIM.)

f. Warning Area- A warning area is airspace of defined dimensions extending from 3 nautical miles outward from the coast of the United States, that contains activity that may be hazardous to nonparticipating aircraft. The purpose of such warning area is to warn nonparticipating pilots of the potential danger. A warning area may be located over domestic or international waters or both.

SPECIAL VFR CONDITIONS- Meteorological conditions that are less than those required for basic VFR flight in Class B, C, D, or E surface areas and in which some aircraft are permitted flight under visual flight rules.

(See SPECIAL VFR OPERATIONS.)

(Refer to FAR Part 91.)

SPECIAL VFR FLIGHT [ICAO]- A VFR flight cleared by air traffic control to operate within Class B, C, D, and E surface areas in metrological conditions below VMC.

SPECIAL VFR OPERATIONS- Aircraft operating in accordance with clearances within Class B, C, D, and E surface areas in weather conditions less than the basic VFR weather minima. Such operations must be requested by the pilot and approved by ATC.

(See SPECIAL VFR CONDITIONS.)

(See ICAO term SPECIAL VFR FLIGHT.)

SPEED-

(See AIRSPEED.)

(See GROUND SPEED.)

SPEED ADJUSTMENT- An ATC procedure used to request pilots to adjust aircraft speed to a specific value for the purpose of providing desired spacing. Pilots are expected to maintain a speed of plus or minus 10 knots

or 0.02 Mach number of the specified speed. Examples of speed adjustments are:

a. "Increase/reduce speed to Mach point (number.)"

b. "Increase/reduce speed to (speed in knots)" or "Increase/reduce speed (number of knots) knots."

SPEED BRAKES- Moveable aerodynamic devices on aircraft that reduce airspeed during descent and landing.

SPEED SEGMENTS- Portions of the arrival route between the transition point and the vertex along the optimum flight path for which speeds and altitudes are specified. There is one set of arrival speed segments adapted from each transition point to each vertex. Each set may contain up to six segments.

SQUAWK (Mode, Code, Function)- Activate specific modes/codes/functions on the aircraft transponder; e.g., "Squawk three/alpha, two one zero five, low."

(See TRANSPONDER.)

STAGING/QUEUING- The placement, integration, and segregation of departure aircraft in designated movement areas of an airport by departure fix, EDCT, and/or restriction.

STANDARD INSTRUMENT APPROACH PROCEDURE-

(See INSTRUMENT APPROACH PROCEDURE.)

STANDARD RATE TURN- A turn of three degrees per second.

STANDARD TERMINAL ARRIVAL- A preplanned instrument flight rule (IFR) air traffic control arrival procedure published for pilot use in graphic and/or textual form. STAR's provide transition from the en route structure to an outer fix or an instrument approach fix/arrival waypoint in the terminal area.

STANDARD TERMINAL ARRIVAL CHARTS-

(See AERONAUTICAL CHART.)

STAND BY- Means the controller or pilot must pause for a few seconds, usually to attend to other duties of a higher priority. Also means to wait as in "stand by for clearance." The caller should reestablish contact if a delay is lengthy. "Stand by" is not an approval or denial.

STAR-

(See STANDARD TERMINAL ARRIVAL.)

STATE AIRCRAFT- Aircraft used in military, customs and police service, in the exclusive service of any government, or of any political subdivision, thereof including the government of any state, territory, or possession of the United States or the District of Columbia, but not including any government-owned aircraft engaged in carrying persons or property for commercial purposes.

STATIC RESTRICTIONS- Those restrictions that are usually not subject to change, fixed, in place, and/or published.

STATIONARY RESERVATIONS- Altitude reservations which encompass activities in a fixed area. Stationary reservations may include activities, such as special tests of weapons systems or equipment, certain U.S. Navy carrier, fleet, and anti-submarine operations, rocket, missile and drone operations, and certain aerial refueling or similar operations.

STEPDOWN FIX- A fix permitting additional descent within a segment of an instrument approach procedure by identifying a point at which a controlling obstacle has been safely overflown.

STEP TAXI- To taxi a float plane at full power or high RPM.

STEP TURN- A maneuver used to put a float plane in a planing configuration prior to entering an active sea lane for takeoff. The STEP TURN maneuver should only be used upon pilot request.

STEREO ROUTE- A routinely used route of flight established by users and ARTCC's identified by a coded name; e.g., ALPHA 2. These routes minimize flight plan handling and communications.

STOL AIRCRAFT-

(See SHORT TAKEOFF AND LANDING AIRCRAFT.)

STOP ALTITUDE SQUAWK- Used by ATC to inform an aircraft to turn-off the automatic altitude reporting feature of its transponder. It is issued when the verbally reported altitude varies 300 feet or more from the automatic altitude report.

(See ALTITUDE READOUT.)

(See TRANSPONDER.)

STOP AND GO- A procedure wherein an aircraft will land, make a complete stop on the runway, and then commence a takeoff from that point.

(See LOW APPROACH.)

(See OPTION APPROACH.)

STOP BURST-

(See STOP STREAM.)

STOP BUZZER-

(See STOP STREAM.)

STOPOVER FLIGHT PLAN- A flight plan format which permits in a single submission the filing of a

sequence of flight plans through interim full-stop destinations to a final destination.

STOP SQUAWK (Mode or Code) - Used by ATC to tell the pilot to turn specified functions of the aircraft transponder off.

(See STOP ALTITUDE SQUAWK.)

(See TRANSPONDER.)

STOP STREAM - Used by ATC to request a pilot to suspend electronic countermeasure activity.

(See JAMMING.)

STOPWAY- An area beyond the takeoff runway no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating the airplane during an aborted takeoff.

STRAIGHT-IN APPROACH IFR- An instrument approach wherein final approach is begun without first having executed a procedure turn, not necessarily completed with a straight-in landing or made to straight-in landing minimums.

(See STRAIGHT-IN LANDING.)

(See LANDING MINIMUMS.)

(See STRAIGHT-IN APPROACH VFR.)

STRAIGHT-IN APPROACH VFR- Entry into the traffic pattern by interception of the extended runway centerline (final approach course) without executing any other portion of the traffic pattern.

(See TRAFFIC PATTERN.)

STRAIGHT-IN LANDING- A landing made on a runway aligned within 30° of the final approach course following completion of an instrument approach.

(See STRAIGHT-IN APPROACH-IFR.)

STRAIGHT-IN LANDING MINIMUMS-

(See LANDING MINIMUMS.)

STRAIGHT-IN MINIMUMS-

(See STRAIGHT-IN LANDING MINIMUMS.)

STRATEGIC PLANNING- Planning whereby solutions are sought to resolve potential conflicts.

SUBSTITUTIONS- Users are permitted to exchange CTA's. Normally, the airline dispatcher will contact the ATCSCC with this request. The ATCSCC shall forward approved substitutions to the TMU's who will notify the appropriate terminals. Permissible swapping must not change the traffic load for any given hour of an EQF program.

SUBSTITUTE ROUTE- A route assigned to pilots when any part of an airway or route is unusable because of NAVAID status. These routes consist of:

a. Substitute routes which are shown on U.S. Government charts.

b. Routes defined by ATC as specific NAVAID radials or courses.

c. Routes defined by ATC as direct to or between NAVAID's.

SUNSET AND SUNRISE- The mean solar times of sunset and sunrise as published in the Nautical Almanac, converted to local standard time for the locality concerned. Within Alaska, the end of evening civil twilight and the beginning of morning civil twilight, as defined for each locality.

SUPER HIGH FREQUENCY- The frequency band between 3 and 30 gigahertz (GHz). The elevation and azimuth stations of the microwave landing system operate from 5031 MHz to 5091 MHz in this spectrum.

SUPPLEMENTAL WEATHER SERVICE LOCATION- Airport facilities staffed with contract personnel who take weather observations and provide current local weather to pilots via telephone or radio. (All other services are provided by the parent FSS).

SUPPS- Refers to ICAO Document 7030 Regional Supplementary Procedures. SUPPS contain procedures for each ICAO Region which are unique to that Region and are not covered in the worldwide provisions identified in the ICAO Air Navigation Plan. Procedures contained in chapter 8 are based in part on those published in SUPPS.

SURFACE AREA- The airspace contained by the lateral boundary of the Class B, C, D, or E airspace designated for an airport that begins at the surface and extends upward.

SURPIC- A description of surface vessels in the area of a Search and Rescue incident including their predicted positions and their characteristics.

(See FAAO 7110.65, Para 10-6-4, *INFLIGHT CONTINGENCIES*.)

SURVEILLANCE APPROACH- An instrument approach wherein the air traffic controller issues instructions, for pilot compliance, based on aircraft position in relation to the final approach course (azimuth), and the distance (range) from the end of the runway as displayed on the controller's radar scope. The controller

will provide recommended altitudes on final approach if requested by the pilot.
(Refer to AIM.)

SWAP-
(See SEVERE WEATHER AVOIDANCE PLAN.)

SWSL-
(See SUPPLEMENTAL WEATHER SERVICE LOCATION.)

SYSTEM STRATEGIC NAVIGATION- Military activity accomplished by navigating along a preplanned route using internal aircraft systems to maintain a desired track. This activity normally requires a lateral route width of 10 NM and altitude range of 1,000 feet to 6,000 feet AGL with some route segments that permit terrain following.

traffic. Usually under the direct supervision of an assistant manager for traffic management.

TRAFFIC NO FACTOR- Indicates that the traffic described in a previously issued traffic advisory is no factor.

TRAFFIC NO LONGER OBSERVED- Indicates that the traffic described in a previously issued traffic advisory is no longer depicted on radar, but may still be a factor.

TRAFFIC PATTERN- The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach.

a. Upwind Leg- A flight path parallel to the landing runway in the direction of landing.

b. Crosswind Leg- A flight path at right angles to the landing runway off its upwind end.

c. Downwind Leg- A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg.

d. Base Leg- A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline.

e. Final Approach. A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. An aircraft making a straight-in approach VFR is also considered to be on final approach.

(See STRAIGHT-IN APPROACH VFR.)

(See TAXI PATTERNS.)

(Refer to AIM.)

(Refer to FAR Part 91.)

(See ICAO term AERODROME TRAFFIC CIRCUIT.)

TRAFFIC SITUATION DISPLAY (TSD)- TSD is a computer system that receives radar track data from all 20 CONUS ARTCC's, organizes this data into a mosaic display, and presents it on a computer screen. The display allows the traffic management coordinator multiple methods of selection and highlighting of individual aircraft or groups of aircraft. The user has the option of superimposing these aircraft positions over any number of background displays. These background options include ARTCC boundaries, any stratum of en route sector boundaries, fixes, airways, military and other special use airspace, airports, and geopolitical boundaries. By using the TSD, a coordinator can monitor any number of traffic situations or the entire systemwide traffic flows.

TRAJECTORY- A URET CCLD representation of the path an aircraft is predicted to fly based upon a Current Plan or Trial Plan.

(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT)

TRAJECTORY MODELING- The automated process of calculating a trajectory.

TRANSCRIBED WEATHER BROADCAST- A continuous recording of meteorological and aeronautical information that is broadcast on L/MF and VOR facilities for pilots.

(Refer to AIM.)

TRANSFER OF CONTROL- That action whereby the responsibility for the separation of an aircraft is transferred from one controller to another.

(See ICAO term TRANSFER OF CONTROL.)

TRANSFER OF CONTROL [ICAO]- Transfer of responsibility for providing air traffic control service.

TRANSFERRING CONTROLLER- A controller/facility transferring control of an aircraft to another controller/facility.

(See ICAO term TRANSFERRING UNIT/CONTROLLER.)

TRANSFERRING FACILITY-

(See TRANSFERRING CONTROLLER.)

TRANSFERRING UNIT/CONTROLLER [ICAO]- Air traffic control unit/air traffic controller in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit/air traffic controller along the route of flight.

Note: See definition of accepting unit/controller.

TRANSITION-

a. The general term that describes the change from one phase of flight or flight condition to another; e.g., transition from en route flight to the approach or transition from instrument flight to visual flight.

b. A published procedure (DP Transition) used to connect the basic DP to one of several en route airways/jet routes, or a published procedure (STAR Transition) used to connect one of several en route airways/jet routes to the basic STAR.

(Refer to DP/STAR Charts.)

TRANSITIONAL AIRSPACE- That portion of controlled airspace wherein aircraft change from one phase of flight or flight condition to another.

TRANSITION POINT- A point at an adapted number of miles from the vertex at which an arrival aircraft would normally commence descent from its en route altitude. This is the first fix adapted on the arrival speed segments.

TRANSMISSOMETER- An apparatus used to determine visibility by measuring the transmission of light through the atmosphere. It is the measurement source for determining runway visual range (RVR) and runway visibility value (RVV).

(See VISIBILITY.)

TRANSMITTING IN THE BLIND- A transmission from one station to other stations in circumstances where two-way communication cannot be established, but where it is believed that the called stations may be able to receive the transmission.

TRANSPONDER- The airborne radar beacon receiver/transmitter portion of the Air Traffic Control Radar Beacon System (ATCRBS) which automatically receives radio signals from interrogators on the ground, and selectively replies with a specific reply pulse or pulse group only to those interrogations being received on the mode to which it is set to respond.

(See INTERROGATOR.)

(Refer to AIM.)

(See ICAO term TRANSPONDER.)

TRANSPONDER [ICAO]- A receiver/transmitter which will generate a reply signal upon proper interrogation; the interrogation and reply being on different frequencies.

TRANSPONDER CODES-

(See CODES.)

TRIAL PLAN- A proposed amendment which utilizes automation to analyze and display potential conflicts along the predicted trajectory of the selected aircraft.

TRSA-

(See TERMINAL RADAR SERVICE AREA.)

TSD-

(See TRAFFIC SITUATION DISPLAY.)

TURBOJET AIRCRAFT- An aircraft having a jet engine in which the energy of the jet operates a turbine which in turn operates the air compressor.

TURBOPROP AIRCRAFT- An aircraft having a jet engine in which the energy of the jet operates a turbine which drives the propeller.

TURN ANTICIPATION- (maneuver anticipation).

TVOR-

(See TERMINAL-VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION.)

TWEB-

(See TRANSCRIBED WEATHER BROADCAST.)

TWO-WAY RADIO COMMUNICATIONS FAILURE-

(See LOST COMMUNICATIONS.)

U

UDF-
(See DIRECTION FINDER.)

UHF-
(See ULTRAHIGH FREQUENCY.)

ULTRAHIGH FREQUENCY- The frequency band between 300 and 3,000 mHz. The bank of radio frequencies used for military air/ground voice communications. In some instances this may go as low as 225 mHz and still be referred to as UHF.

ULTRALIGHT VEHICLE- An aeronautical vehicle operated for sport or recreational purposes which does not require FAA registration, an airworthiness certificate, nor pilot certification. They are primarily single occupant vehicles, although some two-place vehicles are authorized for training purposes. Operation of an ultralight vehicle in certain airspace requires authorization from ATC.
(See FAR Part 103.)

UNABLE- Indicates inability to comply with a specific instruction, request, or clearance.

UNDER THE HOOD- Indicates that the pilot is using a hood to restrict visibility outside the cockpit while simulating instrument flight. An appropriately rated pilot is required in the other control seat while this operation is being conducted.
(Refer to FAR Part 91.)

UNICOM- A nongovernment communication facility which may provide airport information at certain airports. Locations and frequencies of UNICOM's are shown on aeronautical charts and publications.
(See AIRPORT/FACILITY DIRECTORY.)
(Refer to AIM.)

UNPUBLISHED ROUTE- A route for which no minimum altitude is published or charted for pilot use. It may include a direct route between NAVAID's, a radial, a radar vector, or a final approach course beyond the segments of an instrument approach procedure.
(See PUBLISHED ROUTE.)
(See ROUTE.)

UPWIND LEG-
(See TRAFFIC PATTERN.)

URET-
(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

URET CCLD-
(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT.)

URGENCY- A condition of being concerned about safety and of requiring timely but not immediate assistance; a potential distress condition.
(See ICAO term URGENCY.)

URGENCY [ICAO]- A condition concerning the safety of an aircraft or other vehicle, or of person on board or in sight, but which does not require immediate assistance.

USAFIB-
(See ARMY AVIATION FLIGHT INFORMATION BULLETIN.)

USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT (URET CCLD)- User Request Evaluation Tool Core Capability Limited Deployment is an automated tool provided at each Radar Associate position in selected En Route facilities. This tool utilizes flight and radar data to determine present and future trajectories for all active and proposal aircraft and provides enhanced, automated flight data management.

UVDF-
(See DIRECTION FINDER.)

W

WA-
(See AIRMET.)
(See WEATHER ADVISORY.)

WAKE TURBULENCE- Phenomena resulting from the passage of an aircraft through the atmosphere. The term includes vortices, thrust stream turbulence, jet blast, jet wash, propeller wash, and rotor wash both on the ground and in the air.
(See AIRCRAFT CLASSES.)
(See JET BLAST.)
(See VORTICES.)
(Refer to AIM.)

WARNING AREA-
(See SPECIAL USE AIRSPACE.)

WASS-
(See WIDE-AREA AUGMENTATION SYSTEM.)

WAYPOINT- A predetermined geographical position used for route/instrument approach definition, progress reports, published VFR routes, visual reporting points or points for transitioning and/or circumnavigating controlled and/or special use airspace, that is defined relative to a VORTAC station or in terms of latitude/longitude coordinates.

WEATHER ADVISORY- In aviation weather forecast practice, an expression of hazardous weather conditions not predicted in the area forecast, as they affect the operation of air traffic and as prepared by the NWS.
(See SIGMET.)
(See AIRMET.)

WHEN ABLE- When used in conjunction with ATC instructions, gives the pilot the latitude to delay compliance until a condition or event has been reconciled. Unlike "pilot discretion," when instructions are prefaced "when able," the pilot is expected to seek the first opportunity to comply. Once a maneuver has been initiated, the pilot is expected to continue until the specifications of the instructions have been met. "When able," should not be used when expeditious compliance is required.

WIDE-AREA AUGMENTATION SYSTEM (WAAS)- The WAAS is a satellite navigation system consisting of the equipment and software which augments the GPS Standard Positioning Service (SPS). The WAAS provides enhanced integrity, accuracy, availability, and continuity over and above GPS SPS. The differential correction function provides improved accuracy required for precision approach.

WILCO- I have received your message, understand it, and will comply with it.

WIND SHEAR- A change in wind speed and/or wind direction in a short distance resulting in a tearing or shearing effect. It can exist in a horizontal or vertical direction and occasionally in both.

WIND GRID DISPLAY- A display that presents the latest forecasted wind data overlaid on a map of the ARTCC area. Wind data is automatically entered and updated periodically by transmissions from the National Weather Service. Winds at specific altitudes, along with temperatures and air pressure can be viewed.

WING TIP VORTICES-
(See VORTICES.)

WORDS TWICE-

a. As a request: "Communication is difficult. Please say every phrase twice."

b. As information: "Since communications are difficult, every phrase in this message will be spoken twice."

WORLD AERONAUTICAL CHARTS-
(See AERONAUTICAL CHART.)

WS-
(See SIGMET.)
(See WEATHER ADVISORY.)

WST-
(See CONVECTIVE SIGMET.)
(See WEATHER ADVISORY.)

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U.S. Department
of Transportation
**Federal Aviation
Administration**

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7/12/01**

BRIEFING GUIDE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Initiated By: ATP-100

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1. PARAGRAPH NUMBER AND TITLE: 2-4-20. AIRCRAFT IDENTIFICATION

2. BACKGROUND: This recommendation was made by the Kansas City Air Route Traffic Control Center and would reflect current phraseology usage.

3. CHANGE:

OLD	NEW
2-4-20. AIRCRAFT IDENTIFICATION	**2-4-20. AIRCRAFT IDENTIFICATION**
Title through **a6(e)** ***Example***	No Change
(f) Special Air Mission. "SAM."	No Change
EXAMPLE- *"U.S. Sam Niner One Five Six Two."*	***EXAMPLE-*** *"Sam Niner One Five Six Two."*

4. OPERATIONAL IMPACT: Minimal.

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1. PARAGRAPH NUMBER AND TITLE: 2-9-3. CONTENT

2. BACKGROUND: The current wording of this NOTE infers that the ASOS/AWOS wind direction and velocity should be considered as the primary source of airport wind information for operational purposes. The intent of this change is to clarify that the ASOS/AWOS wind information is primarily only for weather observation purposes. In accordance with FAA Order 7210.3, Facility Operation and Administration, paragraph 2-9-1, Wind Instrument Sensors, the Air Traffic Manager shall designate in a facility directive which wind sources shall be used for operational purposes.

3. CHANGE:

OLD	NEW
2-9-3. CONTENT	**2-9-3. CONTENT**
Include the following in ATIS broadcast as appropriate:	No Change
a. Airport/facility name, phonetic letter code, time of weather sequence (UTC). Weather information consisting of wind direction and velocity, visibility, obstructions to vision, present weather, sky condition, temperature, dew point, altimeter, a density altitude advisory when appropriate and other pertinent remarks included in the official weather observation. Wind direction, velocity, and altimeter shall be reported from certified direct reading instruments. Temperature and dew point should be reported from certified direct reading sensors when available. Always include weather observation remarks of lightning, cumulonimbus, and towering cumulus clouds.	No Change

NOTE- *ASOS/AWOS is to be considered the primary source of wind direction, velocity, and altimeter data at those locations that are so equipped. The ASOS Operator Interface Device (OID) displays the magnetic wind as "MAG WND" in the auxiliary data location in the lower left hand portion of the screen. Other OID displayed winds are true and are not to be used for operational purposes.*	*NOTE-* *ASOS/AWOS is to be considered the primary source of wind direction, velocity, and altimeter data* ***for weather observation purposes*** *at those locations that are so equipped. The ASOS Operator Interface Device (OID) displays the magnetic wind as "MAG WND" in the auxiliary data location in the lower left-hand portion of the screen. Other OID displayed winds are true and are not to be used for operational purposes.*

4. OPERATIONAL IMPACT: Minimal.

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1. PARAGRAPH NUMBER AND TITLE: 2-10-1. EN ROUTE SECTOR TEAM POSITION RESPONSIBILITIES

2. BACKGROUND: The Air Traffic Conflict Probe Team has recommended these changes in conjunction with the deployment of the User Request Evaluation Tool Core Capability Limited Deployment (URET CCLD).

3. CHANGE:

OLD	NEW
2-10-1. EN ROUTE SECTOR TEAM POSITION RESPONSIBILITIES	**2-10-1. EN ROUTE SECTOR TEAM POSITION RESPONSIBILITIES**
a through **b6**	No Change
c. Primary responsibilities of the En Route Sector Team Positions:	No Change
1. ***Radar Position:***	No Change
(a) Ensure separation.	No Change
(b) Initiate control instructions.	No Change
(c) Monitor and operate radios.	No Change
(d) Accept and initiate automated handoffs.	No Change
(e) Assist the radar associate position with nonautomated handoff actions when needed.	No Change
(f) Assist the radar associate position in coordination when needed.	No Change
(g) Scan radar display. Correlate with flight progress strip information.	**(g)** Scan radar display. Correlate with flight progress strip information **or User Request Evaluation Tool Core Capability Limited Deployment (URET CCLD) data, as applicable**.
(h) Ensure computer entries are completed on instructions or clearances you issue or receive.	No Change
(i) Ensure strip marking is completed on instructions or clearances you issue or receive.	**(i)** Ensure strip marking **and/or URET CCLD entries are** completed on instructions or clearances you issue or receive.

(j) Adjust equipment at radar position to be usable by all members of the team.

No Change

(k) The radar controller shall not be responsible for G/G communications when precluded by VSCS split functionality.

No Change

2. *Radar Associate Position:*

No Change

(a) Ensure separation.

No Change

Add

(b) At URET CCLD facilities, use URET CCLD information to plan, organize, and expedite the flow of traffic.

(b) Initiate control instructions.

(c) Initiate control instructions.

(c) Operate interphones.

(d) Operate interphones.

(d) Accept and initiate nonautomated handoffs, and ensure radar position is made aware of the actions.

(e) Accept and initiate nonautomated handoffs, and ensure radar position is made aware of the actions.

(e) Assist the radar position by accepting or initiating automated handoffs which are necessary for the continued smooth operation of the sector, and ensure that the radar position is made immediately aware of any action taken.

(f) Assist the radar position by accepting or initiating automated handoffs which are necessary for the continued smooth operation of the sector, and ensure that the radar position is made immediately aware of any action taken.

(f) Coordinate, including pointouts.

(g) Coordinate, including pointouts.

(g) Monitor radios when not performing higher priority duties.

(h) Monitor radios when not performing higher priority duties.

(h) Scan flight progress strips. Correlate with radar data.

(i) Scan flight progress strips **and/or URET CCLD data**. Correlate with radar data.

(i) Manage flight progress strips.

(j) Manage flight progress strips **and/or URET CCLD flight data**.

(j) Ensure computer entries are completed on instructions issued or received. Enter instructions issued or received by the radar position when aware of those instructions.

(k) Ensure computer entries are completed on instructions issued or received. Enter instructions issued or received by the radar position when aware of those instructions.

(k) Ensure strip marking is completed on instructions issued or received, and write instructions issued or received by the radar position when aware of them.

(l) As appropriate, ensure strip marking **and/or URET CCLD entries are** completed on instructions issued or received, and **record** instructions issued or received by the radar position when aware of them.

(l) Adjust equipment at radar associate position to be usable by all members of the team.

(m) Adjust equipment at radar associate position to be usable by all members of the team.

Add

(n) Where authorized, perform URET CCLD data entries to keep the activation status of designated URET CCLD Airspace Configuration Elements current.

3(a) through **3(d)** ***NOTE***

No Change

4. *Radar Flight Data:*

No Change

(a) Operate interphone.

No Change

(b) Assist Radar Associate Position in managing flight progress strips.

No Change

(c) Receive/process and distribute flight progress strips.	No Change
(d) Ensure flight data processing equipment is operational.	(d) Ensure flight data processing equipment is operational, **except for URET CCLD capabilities**.

4. OPERATIONAL IMPACT: Minimal.

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1. PARAGRAPH NUMBER AND TITLE: 3-1-8. LOW LEVEL WIND SHEAR ADVISORIES

2. BACKGROUND: The Integrated Terminal Weather System (ITWS) provides detection and short-term prediction of terminal weather through the integration of data from FAA/National Weather Service sensors and systems, as well as aircraft in flight. ITWS provides weather information that is immediately usable without further meteorological interpretation. TDWR and WSP are also designed to detect wind shear and microburst activity as well as detecting gust fronts, precipitation, and storm motion. ITWS provides all these products plus tornado detection and alert. In addition to low level wind shear and microburst alerts to the controller on the ribbon display, ITWS also provides detection and alert of tornado activity. The controller will issue alerts to pilots and include tornado activity on the Airport Terminal Information Service using the same procedures currently used for wind shear and microbursts.

3. CHANGE:

OLD	NEW
3-1-8. LOW LEVEL WIND SHEAR ADVISORIES	**3-1-8. LOW LEVEL WIND SHEAR ADVISORIES**
a through **b1(c)** ***NOTE***	No Change
2. LLWAS "Network Expansion" (LLWAS III) and LLWAS systems that are integrated with TDWR, provide the capability of displaying microburst alerts, wind shear alerts and wind information oriented to the threshold or departure end of a runway. TDWR is designed to detect wind shear and microburst activity. The associated ribbon display allows the controller to read the displayed alert without any need for interpretation.	**2.** LLWAS "Network Expansion" (LLWAS **NE) which is integrated with TDWR, and LLWAS "Relocation/Sustainment" (LLWAS-RS)** provide the capability of displaying microburst alerts, wind shear alerts and wind information oriented to the threshold or departure end of a runway. TDWR **and WSP are also** designed to detect wind shear and microburst activity. **ITWS will also provide tornado detection and alert.** The associated ribbon display allows the controller to read the displayed alert without any need for interpretation.
(a) through **(d)** ***PHRASEOLOGY***	No Change
(e) When a microburst is detected, a statement shall be included on the ATIS broadcast, "MICROBURST ADVISORIES IN EFFECT." This item shall be included on the ATIS for at least 20 MINUTES following the microburst alert.	**(e)** When a microburst/**tornado** is detected, a statement shall be included on the ATIS broadcast, "MICROBURST/**TORNADO** ADVISORIES IN EFFECT." This item shall be included on the ATIS for at least 20 MINUTES following the microburst alert. **Issue the displayed tornado advisory oriented to the direction from the airport.**
Add	***PHRASEOLOGY-*** ***TORNADO ALERT (direction from airport).***

(f) The LLWAS "Network Expansion" is designed to operate with as many as 50 percent of the total sensors inoperative. When all three remote sensors designated for a specific runway arrival or departure wind display line are inoperative then the LLWAS-NE for that runway arrival/departure shall be considered out of service. When a specific runway arrival or departure wind display line is inoperative and wind shear/microburst activity is likely; (e.g.; frontal activity, convective storms, PIREP's), a statement shall be included on the ATIS, "WIND SHEAR AND MICROBURST INFORMATION FOR RUNWAY *(runway number)* ARRIVAL/DEPARTURE NOT AVAILABLE."

NOTE-
The geographic situation display (GSD) is a supervisory planning tool and is not intended to be a primary tool for microburst or wind shear alerts.

(f) The LLWAS-**NE and LLWAS-RS are** designed to operate with as many as 50 percent of the total sensors inoperative. When all three remote sensors designated for a specific runway arrival or departure wind display line are inoperative then the LLWAS-NE **or LLWAS-RS** for that runway arrival/departure shall be considered out of service. When a specific runway arrival or departure wind display line is inoperative and wind shear/microburst activity is likely; (e.g.; frontal activity, convective storms, PIREP's), a statement shall be included on the ATIS, "WIND SHEAR AND MICROBURST INFORMATION FOR RUNWAY (runway number) ARRIVAL/ DEPARTURE NOT AVAILABLE."

NOTE-
*The geographic situation display (GSD) is a supervisory planning tool and is not intended to be a primary tool for microburst, wind shear **or tornado** alerts.*

4. OPERATIONAL IMPACT: None.

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1. PARAGRAPH NUMBER AND TITLE: 3-3-4. BRAKING ACTION

2. BACKGROUND: FAA Order 7930.2G, Notices to Airmen (NOTAM), and FAA Notice 7930.63, Snow Notices to Airmen (NOTAM) Procedural Changes, require the publication of NOTAM's for friction measurements MU-Meter values. Order 7930.2G states, "MU values describe each third of a runway. NOTAM's shall not be issued if all readings are above the value of 40."

The problem that is occurring is that airport operators have been required by the Associate Administrator for Airports (ARP) to issue runway braking reports in accordance with procedures outlined in specific airport certification manuals along with field conditions during the winter operating time periods, even if there is nothing to report. Example: Runway 11/29 bare and dry, MU-Meter greater than 40 on all surfaces. This problem continues to be compounded by the fact that air traffic control (ATC) is required by Order 7110.65, Air Traffic Control, paragraph 3-3-4d1, to "Furnish information as received from the airport management to pilots on the ATIS at locations where friction measuring devices, such as MU-Meter, Saab Friction Tester (SFT), and Skiddometer are in use. Use the runway followed by the MU number for each of the three runway segments, time of report, and a word describing the cause of the runway friction problem."

ARP supplies ATC with this information and Air Traffic is required to disseminate it, although the values are not reportable according to Order 7930.2G. This results in confusion for pilots, who then make requests for explanation of the meaning of the report "greater than 40."

3. CHANGE:

OLD	NEW
3-3-4. BRAKING ACTION	**3-3-4. BRAKING ACTION**
Title through **c** *NOTE*	No Change
d. Furnish runway friction measurement readings/values as received from airport management to aircraft as follows:	No Change
1. Furnish information as received from the airport management to pilots on the ATIS at locations where friction measuring devices, such as MU-Meter, Saab Friction Tester (SFT), and Skiddometer are in use. Use the runway followed by the MU number for each of the three runway segments, time of report, and a word describing the cause of the runway friction problem.	**1.** Furnish information as received from the airport management to pilots on the ATIS at locations where friction measuring devices, such as MU-Meter, Saab Friction Tester (SFT), and Skiddometer are in use **only when the MU values are 40 or less**. Use the runway followed by the MU number for each of the three runway segments, time of report, and a word describing the cause of the runway friction problem. **Do not issue MU values when all three segments of the runway have values reported greater than 40.**

4. OPERATIONAL IMPACT: This change should result in less frequency congestion and confusion; fewer calls to ATC by pilots for explanations of reports of "greater than 40," and fewer requests for actual MU meter numbers.

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1. PARAGRAPH NUMBER AND TITLE: 3-10-4. INTERSECTING RUNWAY SEPARATION

2. BACKGROUND: The Department of the Navy does not authorize their aircraft to conduct LAHSO.

3. CHANGE:

OLD	NEW
3-10-4. INTERSECTING RUNWAY SEPARATION	**3-10-4. INTERSECTING RUNWAY SEPARATION**
Title through **a2**	No Change
b. *USAF must secure major command approval prior to conducting Land and Hold Short Operations (LAHSO).* An aircraft may be authorized to takeoff from one runway while another aircraft lands simultaneously on an intersecting runway or an aircraft lands on one runway while another aircraft lands simultaneously on an intersecting runway, or an aircraft lands to hold short of an intersecting taxiway or some other predetermined point such as an approach/departure flight path using procedures specified in the current LAHSO directive. The procedure shall be approved by the air traffic manager and be in accordance with a facility directive. The following conditions apply:	**b.** *USAF must secure major command approval prior to conducting Land and Hold Short Operations (LAHSO).* **"USN NOT APPLICABLE."** An aircraft may be authorized to takeoff from one runway while another aircraft lands simultaneously on an intersecting runway or an aircraft lands on one runway while another aircraft lands simultaneously on an intersecting runway, or an aircraft lands to hold short of an intersecting taxiway or some other predetermined point such as an approach/departure flight path using procedures specified in the current LAHSO directive. The procedure shall be approved by the air traffic manager and be in accordance with a facility directive. The following conditions apply:

4. OPERATIONAL IMPACT: None.

1. PARAGRAPH NUMBER AND TITLE: 4-5-3. EXCEPTIONS

2. BACKGROUND: The Air Traffic Conflict Probe Team has recommended this change in conjunction with the deployment of the User Request Evaluation Tool Core Capability Limited Deployment (URET CCLD).

3. CHANGE:

OLD	NEW
4-5-3. EXCEPTIONS	**4-5-3. EXCEPTIONS**
When traffic, meteorological conditions, or aircraft operational limitations prevent assignment of altitudes prescribed in para 4-5-2, Flight Direction, assign any cardinal altitude or flight level below FL 290 or any odd cardinal flight level at or above FL 290 without regard to direction of flight as follows:	No Change
NOTE- *See para 2-3-9, Control Symbology, for control abbreviations and symbols to be used in conjunction with this paragraph.*	No Change
a through **e** ***REFERENCE***	No Change
Add	**f. For facilities utilizing URET CCLD, take this action without coordination when URET CCLD functionalities determine that coordination is not required.**

4. OPERATIONAL IMPACT: Minimal.

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1. PARAGRAPH NUMBER AND TITLE: 4-7-1. CLEARANCE INFORMATION

2. BACKGROUND: A headquarters' interpretation of paragraph 4-7-1 was requested and subsequently, it was determined a change to the paragraph was needed to ensure standardization. The interpretation states that when an aircraft receives a clearance to fly a STAR/FMSP, without descent instructions, the aircraft has received only lateral/routing clearance. If the clearance does not include instructions to vertically navigate on the route or transition, then the clearance must include an assigned altitude.

3. CHANGE:

OLD	NEW
4-7-1. CLEARANCE INFORMATION	**4-7-1. CLEARANCE INFORMATION**
Clear an arriving aircraft to a clearance limit by specifying the following:	No Change
a through **b** ***NOTE***	No Change
c. Altitude instructions, as follows:	No Change
1. Assigned altitude <u>if needed</u>; or	**1.** Assigned altitude; or

4. OPERATIONAL IMPACT: None.

1. PARAGRAPH NUMBER AND TITLE: 5-9-8. SIMULTANEOUS INDEPENDENT DUAL ILS/ MLS APPROACHES-HIGH UPDATE RADAR

2. BACKGROUND: Concerns regarding potential terrain and obstruction avoidance and other issues associated with being turned off the localizer and descended during the critical final approach phase of flight support the need to discourage controllers from utilizing this procedure unless no other alternative is available. Because facilities are required to develop standard breakout routes and altitudes that meet required minimum obstruction clearances, it is anticipated that the use of a descent in conjunction with an instruction to avoid a deviating aircraft would be extremely rare.

3. CHANGE:

OLD	NEW
5-9-8. SIMULTANEOUS INDEPENDENT DUAL ILS/MLS APPROACHES-HIGH UPDATE RADAR	**5-9-8. SIMULTANEOUS INDEPENDENT DUAL ILS/MLS APPROACHES-HIGH UPDATE RADAR**
Title through **c2** ***PHRASEOLOGY***	No Change
3. Instruct aircraft on the adjacent final approach course to alter course to avoid the deviating aircraft when an aircraft is observed penetrating or in the controller's judgement will penetrate the NTZ.	No Change
Add	***NOTE-*** ***An instruction that may include a descent to avoid the deviating aircraft should only be used when there is no other reasonable option available to the controller. In such a case, the descent shall not put the aircraft below the MVA.***
PHRASEOLOGY- *TRAFFIC ALERT, (call sign), TURN (left/right) IMMEDIATELY HEADING (DEGREES), CLIMB AND MAINTAIN (altitude).*	No Change

4. OPERATIONAL IMPACT: Existing guidance provides that facilities at which simultaneous closely spaced independent ILS/MLS approaches are conducted must develop standard breakout procedures to include altitudes that meet required minimum obstruction clearances. Accordingly, the need to issue a descent in conjunction with a breakout instruction is small. To the extent that empirical evidence indicates that descending breakouts are issued infrequently, it is anticipated that the operational impact of this change is minimal.

1. PARAGRAPH NUMBER AND TITLE: 5-10-2. APPROACH INFORMATION

2. BACKGROUND: Pilots landing at a nontowered airport that has an Automated Weather Observing System (AWOS) or an Automated Surface Observing System (ASOS) should monitor the ASOS/AWOS broadcast to ascertain the current weather and advise the controller that they have the weather. If the pilot does not have the frequency for the ASOS/AWOS, the pilot may request the frequency from the controller.

3. CHANGE:

OLD	NEW
5-10-2. APPROACH INFORMATION	**5-10-2. APPROACH INFORMATION**
a. Issue the following information to an aircraft that will conduct a radar approach. Current approach information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS broadcast code. All items listed below, except for subpara 3 may be omitted after the first approach if repeated approaches are made and no change has occurred. Transmissions with aircraft in this phase of the approach should occur approximately every minute.	No Change
REFERENCE- *FAAO 7110.65, Approach Information, Para 4-7-10.*	No Change
1. Altimeter setting.	No Change
2. If available, ceiling and visibility if the ceiling at the airport of intended landing is reported below 1,000 feet or below the highest circling minimum, whichever is greater, or if the visibility is less than 3 miles. Advise pilots when weather information is available via the Automated Weather Observing System (AWOS)/Automated Surface Observing System (ASOS) and issue the appropriate frequency.	**2.** If available, ceiling and visibility if the ceiling at the airport of intended landing is reported below 1,000 feet or below the highest circling minimum, whichever is greater, or if the visibility is less than 3 miles. Advise pilots when weather information is available via the Automated Weather Observing System (AWOS)/Automated Surface Observing System (ASOS) and**, if requested,** issue the appropriate frequency.

4. OPERATIONAL IMPACT: Minimal.

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1. PARAGRAPH NUMBER AND TITLE: 7-9-4. SEPARATION

2. BACKGROUND: Paragraph 7-9-4b of FAA Order 7110.65M, Air Traffic Control, states different separation standards for aircraft based on weights of more than 19,000 pounds. It was believed that the note that accompanies this paragraph confused the reader by offering examples of aircraft that are less than 19,000 pounds and should be relocated.

3. CHANGE:

OLD	NEW
7-9-4. SEPARATION	**7-9-4. SEPARATION**
a. Standard IFR services to IFR aircraft.	No Change
b. VFR aircraft shall be separated from VFR/IFR aircraft that weigh more than 19,000 pounds and turbojets by no less than:	No Change

NOTE- *Aircraft weighing 19,000 pounds or less include all of the aircraft in SRS categories I and II plus SC7, G73, E110, DO82, STAR, S601, BE30, B350, SW3, B190, and C212.*	Delete
1 through **3** ***NOTE***	No Change
c. VFR aircraft shall be separated from all VFR/IFR aircraft which weigh 19,000 pounds or less by a minimum of:	No Change
1. Target resolution, or	No Change
2. 500 feet vertical separation, or	No Change
NOTE- *Apply the provisions of para 5-5-3, Minima, when wake turbulence separation is required.*	***NOTE-*** *1. Apply the provisions of para 5-5-4, Minima, when wake turbulence separation is required.*
Add	***2. Aircraft weighing 19,000 pounds or less include all aircraft in SRS Categories I and II plus G73, STAR, S601, BE30, SW3, B190 and C212.***

4. OPERATIONAL IMPACT: None.

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1. PARAGRAPH NUMBER AND TITLE: 9-9-1. UNIDENTIFIED FLYING OBJECT (UFO) REPORTS

2. BACKGROUND: In calendar year 1999, representatives from the National Institute for Discovery Sciences (NIDS) contacted the FAA Administrator to offer their research institution as the single point of contact recognized by the FAA in regard to UFO information. On April 14, 2000, after being referred by the FAA Administrator, NIDS representatives met with ATP-200 to finalize a course of action. This change is a result of that meeting and is official FAA recognition that NIDS is the single point of contact for UFO research.

3. CHANGE:

OLD	**NEW**
Chapter 9. Special Flights	No Change
Add	**Section 9. Unidentified Flying Object (UFO) Reports**
Add	**9-9-1. GENERAL**
Add	**a. Persons wanting to report UFO activity should contact the National Institute for Discovery Sciences (NIDS) via the following methods:** **(702) 798-1700 Voice** **(702) 798-1970 Facsimile** **http://www.nidsci.org**
Add	**b. NIDS will ask a series of questions (verbal and/or via questionnaire) concerning the event.**

Add	***NOTE-*** ***NIDS is the single point of contact recognized by the FAA in regard to UFO information. They will maintain a national database on anomalous phenomena and periodically share that information with the FAA.***
	c. If concern is expressed that life or property might be endangered, refer the individual to the local police department.

4. OPERATIONAL IMPACT: None.

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1. PARAGRAPH NUMBER AND TITLE: 11-1-2. DUTIES AND RESPONSIBILITIES

2. BACKGROUND: The Air Traffic Conflict Probe Team has recommended these changes in conjunction with the deployment of the User Request Evaluation Tool Core Capability Limited Deployment (URET CCLD).

3. CHANGE:

OLD	NEW
11-1-2. DUTIES AND RESPONSIBILITIES	**11-1-2. DUTIES AND RESPONSIBILITIES**
a. Supervisory Traffic Management Coordinator-in-Charge (STMCIC) shall:	No Change
1. Ensure that an operational briefing is conducted at least once during the day and evening shifts. Participants shall include, at a minimum, the STMCIC, Operations Supervisors (OS), Traffic Management Coordinator(s) (TMC), and other interested personnel as designated by facility management. Discussions at the meeting should include meteorological conditions (present and forecasted), staffing, equipment status, runways in use, AAR and traffic management initiatives (present and anticipated).	No Change
2. Assume responsibility for TMC duties when not staffed.	No Change
3. Ensure that traffic management initiatives are carried out by Supervisory Traffic Management Coordinator-in-Charge (STMCIC).	No Change
Add	**4. Where authorized, perform URET CCLD data entries to keep the activation status of designated URET CCLD Airspace Configuration Elements current.**
Add	**5. Perform assigned actions in the event of a URET CCLD outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.**
Add	**6. Ensure changes to restrictions based on the Restrictions Inventory and Evaluation are implemented in a timely manner.**

b. OS shall:	No Change
1. Keep the TMU and affected sectors apprised of situations or circumstances that may cause congestion or delays.	No Change
2. Coordinate with the TMU and ATCS's to develop appropriate traffic management initiatives for sectors and airports in their area of responsibility.	No Change
3. Continuously review traffic management initiatives affecting their area of responsibility and coordinate with TMU for extensions, revisions, or cancellations.	No Change
4. Ensure that traffic management initiatives are carried out by ATCS's.	No Change
Add	**5. Where authorized, perform URET CCLD data entries to keep the activation status of designated URET CCLD Airspace Configuration Elements current.**
Add	**6. Perform assigned actions in the event of a URET CCLD outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.**
Add	**7. Ensure changes to restrictions based on the Restrictions Inventory and Evaluation are implemented in a timely manner.**
c. ATCS's shall:	No Change
1. Ensure that traffic management initiatives and programs are enforced within their area of responsibility. Traffic management initiatives and programs do not have priority over maintaining:	No Change
(a) Separation of aircraft.	No Change
(b) Procedural integrity of the sector.	No Change
2. Keep the OS and TMU apprised of situations or circumstances that may cause congestion or delays.	No Change
3. Continuously review traffic management initiatives affecting their area of responsibility and coordinate with OS and TMU for extensions, revisions, or cancellations.	No Change
Add	**4. Where authorized, perform URET CCLD data entries to keep the activation status of designated URET CCLD Airspace Configuration Elements current.**
Add	**5. Perform assigned actions in the event of a URET CCLD outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.**

4. OPERATIONAL IMPACT: Minimal.

1. PARAGRAPH NUMBER AND TITLE: CHAPTER 13. DECISION SUPPORT TOOLS SECTION 1. USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT (URET CCLD)

2. BACKGROUND: The Air Traffic Conflict Probe Team has recommended these changes in conjunction with the deployment of the User Request Evaluation Tool Core Capability Limited Deployment (URET CCLD).

3. CHANGE:

OLD	NEW
Add	**Chapter 13. Decision Support Tools**
Add	**Section 1. User Request Evaluation Tool Core Capability Limited Deployment (URET CCLD) - En Route**
Add	**13-1-1. DESCRIPTION**
Add	**a. URET CCLD, a decision support technology and component of the Free Flight Program, is utilized in the en route environment and is located at the Radar Associate (RA) position at an operational sector. The purpose of the tool is the prediction of conflicts between aircraft and between aircraft and special use or designated airspace, and it also provides trial planning and enhanced flight data management capabilities.**
Add	**b. URET CCLD is designed to enhance the efficiency of the Sector Team by providing decision support in the prediction and resolution of potential conflicts, and, as a result, allowing controllers more latitude in other tasks, such as responding to user requests. Further, the use of the tool could provide increased system safety, decreased system delays, and increased system flexibility, predictability, productivity, and user access.**
Add	**c. URET CCLD predicts conflicts up to 20 minutes in advance using flight plan, forecast winds, aircraft performance characteristics, and track data to derive expected aircraft trajectories. URET CCLD supports early identification and resolution of predicted conflicts and the evaluation of user requests, and it is to be used by the sector team in performing their strategic planning responsibilities.**
Add	**13-1-2. CONFLICT DETECTION AND RESOLUTION**
Add	**a. Actively scan URET CCLD information for predicted alerts.**
Add	**b. When a URET CCLD alert is displayed, evaluate the alert and take appropriate action as early as practical, in accordance with duty priorities.**
Add	**c. Prioritize the evaluation and resolution of URET CCLD alerts to ensure the safe, expeditious, and efficient flow of air traffic.**

Add *NOTE-*
URET CCLD alerts are based on radar separation standards. Caution should be used when situations include nonstandard formations.

Add d. When a URET CCLD alert is displayed and when sector priorities permit, give consideration to the following in determining a solution:

Add 1. Solutions that involve direct routing, altitude changes, removal of a flight direction constraint (i.e. inappropriate altitude for direction of flight), and/or removal of a static restriction for one or more pertinent aircraft.

Add 2. Impact on surrounding sector traffic and complexity levels, flight efficiencies, and user preferences.

Add 13-1-3. TRIAL PLANNING

Add a. When URET CCLD is operational at the sector and when sector priorities permit, use the trial plan capability to evaluate:

Add 1. Solutions to predicted conflicts.

Add 2. The feasibility of granting user requests.

Add 3. The feasibility of removing a flight direction constraint (i.e., inappropriate altitude for direction of flight) for an aircraft.

Add 4. The feasibility of removing a static restriction for an aircraft.

Add 13-1-4. URET CCLD-BASED CLEARANCES

Add a. When the results of a trial plan based upon a user request indicate the absence of alerts, every effort should be made to grant the user request, unless the change is likely to adversely effect operations at another sector.

Add b. Unless otherwise required by facility directive, when URET CCLD is operational and a flight will exit the sector at the wrong altitude for direction of flight, the transferring sector team is not required to request approval from the receiving sector team, provided:

Add 1. A "show-all" function for the subject aircraft indicates the aircraft is conflict free.

Add 2. URET CCLD is operational at the receiving sector.

Add 13-1-5. THE AIRCRAFT LIST (ACL) AND FLIGHT DATA MANAGEMENT

Add a. The ACL shall be used as the sector team's primary source of flight data.

Add b. When URET CCLD is operational, sector teams shall post flight progress strips for any nonradar flights.

Add	**c. When URET CCLD is operational, sector teams shall post any flight progress strip(s) that are deemed necessary for safe or efficient operations. The sector team shall comply with all applicable facility directives to maintain posted flight progress strips.**
Add	***NOTE-*** ***Cases in which an operational advantage may be realized include, but are not limited to aircraft that cannot be expected to remain in radar contact, aircraft in hold, and emergencies.***
Add	**13-1-6. RECORDING OF CONTROL DATA**
Add	**a. All control information not otherwise recorded via automation recordings or voice recordings shall be manually recorded using approved methods.**
Add	**b. Control information may be entered in the free text area and shall be used for reference purposes only.**
Add	**c. Data required to be entered into the free text area shall be designated in a facility directive.**
Add	**13-1-7. ACKNOWLEDGEMENT OF AUTOMATED NOTIFICATION**
Add	**a. Remove Inappropriate Altitude for Direction of Flight coding only after any required coordination has been completed, or it has been determined that no coordination is required.**
Add	**b. Remove Unsuccessful Transmission Message (UTM) coding only after appropriate coordination has been completed.**
Add	**c. Remove Route Action Notification only after the appropriate clearance has been issued to the pilot or otherwise coordinated.**
Add	**d. Remove Expect Departure Clearance Time (EDCT) coding only after the EDCT has been issued to the pilot.**
Add	**e. Remove ATC Preferred Route (APR) coding only after the route has been checked and any required action has been completed.**
Add	***NOTE-*** ***If coding is prematurely removed and the control of the aircraft is transferred prior to completing the appropriate action, the next sector will not receive the necessary APR notification.***

Add **13-1-8. CURRENCY OF TRAJECTORY INFORMATION**

Add **a. The sector team shall perform automation entries in a timely manner.**

Add ***NOTE-***
1. Conflict probe accuracy requires timely updates of data used to model each flight's trajectory. If this data is not current, the aircraft entries and notification of probe results for surrounding sectors and facilities, as well as the subject sector, may be misleading.

Add ***2. Data used to model an individual aircraft's trajectory includes route of flight, assigned and interim altitudes, application/removal of an adapted restriction for that flight, and aircraft type.***

Add **b. An exception to the requirement to enter or update interim altitudes may be authorized for certain ARTCC sectors if explicitly defined in an appropriate facility directive.**

Add ***NOTE-***
URET CCLD accuracy in assigning alert notification is dependent upon entry/update of a flight's interim altitude.

Add **13-1-9. DELAY REPORTING**

Add **a. Adhere to all applicable delay reporting directives while URET CCLD is operational.**

Add **b. Delay information shall be recorded either on available flight progress strips or on facility approved forms.**

Add **13-1-10. OVERDUE AIRCRAFT**

Add **Upon receipt of the URET CCLD overdue aircraft notification take appropriate actions set forth in Chapter 10, Section 3, Overdue Aircraft.**

Add ***NOTE-***
URET CCLD overdue aircraft notification is based on radar track data. Updating an aircraft's route of fight will remove the overdue aircraft notification.

Add **13-1-11. USE OF GRAPHICS PLAN DISPLAY (GPD)**

Add **a. Graphic depictions of flight trajectories may be used only to aid in situational awareness and strategic planning.**

Add **b. Do not use trajectory-based positions as a substitute for radar track position.**

Add **c. Do not use trajectory-based altitude in lieu of Mode C for altitude confirmation.**

Add	**d. Do not use the GPD for radar identification, position information, transfer of radar identification, radar separation, correlation, or point-outs.**
Add	**13-1-12. FORECAST WINDS**
Add	**In the event that current forecast wind data is not available, continue use of URET CCLD with appropriate recognition that alert data may be affected.**
Add	**13-1-13. INTERFACILITY CONNECTIVITY**
Add	**In the event of a loss of connectivity to a neighboring URET CCLD system, continue use of URET CCLD with appropriate recognition that alert data may be affected.**
Add	**13-1-14. HOST OUTAGES**
Add	**In the event of a Host outage, URET CCLD data may be used to support situational awareness while the facility transitions to Enhanced Direct Access Radar Channel (EDARC) or nonradar procedures.**
Add	***NOTE-*** ***Without Host input, URET CCLD data cannot be updated and becomes stale.***

4. OPERATIONAL IMPACT: Moderate.

*U.S. G.P.O.:2001-472-770:44457